

PULP & PAPER

OCTOBER 1957

New Type of Stock Washers

page 45

Latest for Maintenance

page 48

Pulpwood—10 Years Hence

page 105



F



COLLEGE RECRUITING
P & P's Panel Tells How
To Do It..... page 39

how to start a sales meeting *RIGHT*

AND HERE'S SOME GOOD NEWS TO START OFF THIS MEETING. WE'RE NOW MAKING A BETTER PAPER AT LOWER COST. HERE'S WHY...

SALES MEETING

WE'VE JUST CONVERTED TO AMMONIUM BISULFITE PULPING. A. B. P. GIVES US MORE PRODUCTION, BETTER QUALITY AND CUTS OUR MAINTENANCE COSTS.

NO WONDER THE RIVER LOOKED CLEANER WHEN WE DROVE UP THIS MORNING.

NEXT, WE'VE IMPROVED OUR COATED PAPERS. YOU FELLOWS HAVE BEEN ASKING FOR A COATING WITH MORE WATER RESISTANCE. WELL, HERE IT IS...

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THIS LIQUID -- U. F. CONCENTRATE-85 -- IS THE REASON. IT'S A COMBINATION OF UREA AND FORMALDEHYDE MADE BY ALLIED CHEMICAL. WE ADD IT TO STARCH COATINGS AND ADHESIVES.

YOUR CONVERTERS ARE GOING TO LIKE THESE NEW COATED STOCKS, AND WE LIKE THE PRODUCTION ADVANTAGES.

I'M GOING TO LIKE THE EXTRA BUSINESS I CAN GET.

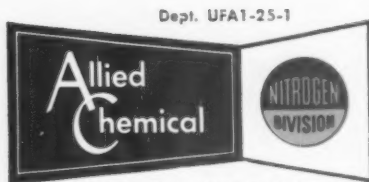
I HEAR A LOT OF MILLS ARE SWITCHING TO AMMONIA FOR PULPING. LOOKS LIKE WE'RE KEEPING UP TO DATE.

WITH THESE NEW COATED PAPERS IN THE LINE, I'D SAY WE'RE GOING OUT IN FRONT.

Allied helps mills cut production costs, boost sales

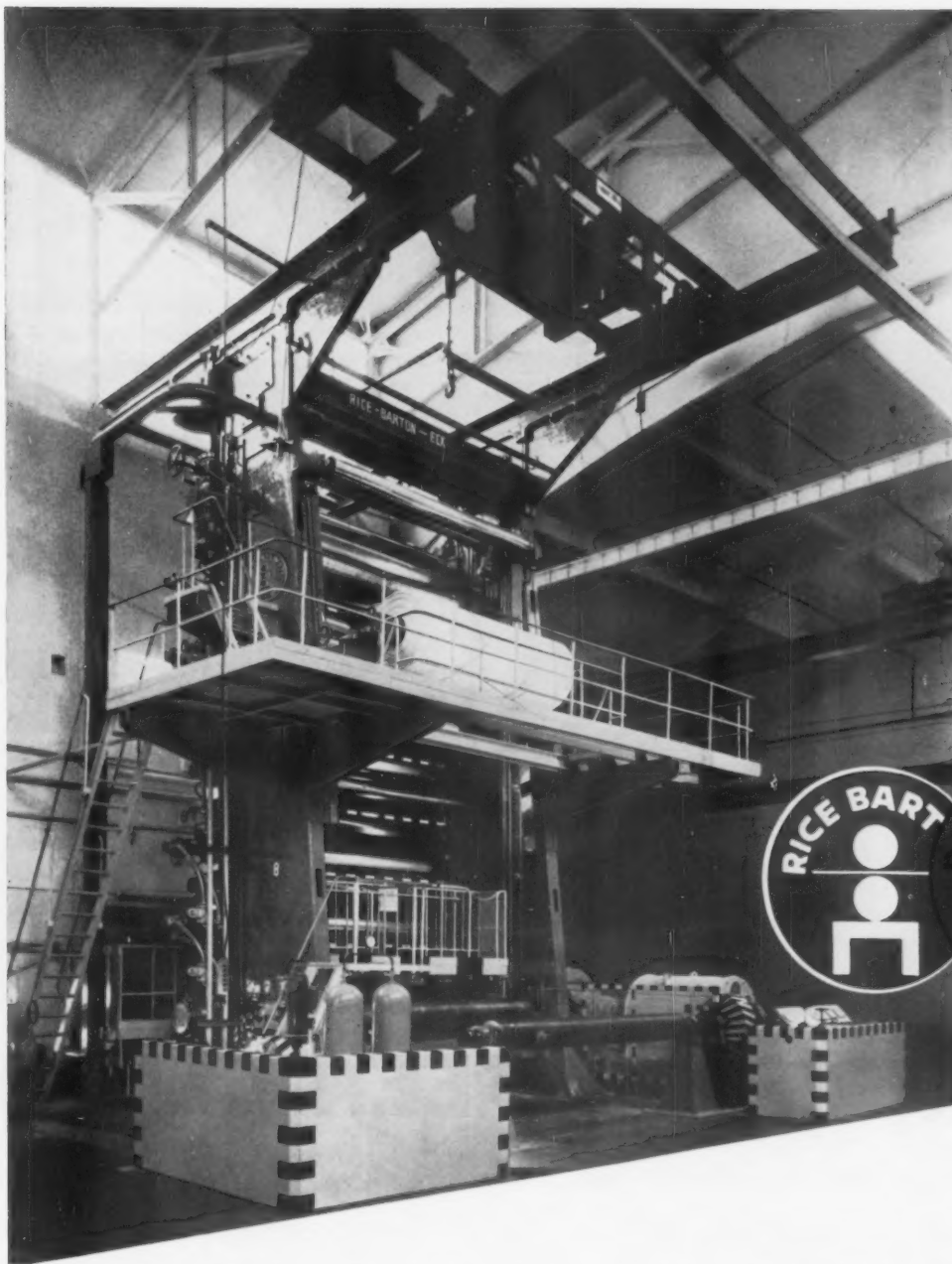
From pulp to finished paper Allied Chemical helps mills make the final product more salable, yet less costly. Ammonium Bisulfite Pulping cuts maintenance expense, offers mills other cost-saving advantages. Allied pioneered it. In starch coatings and adhesives, Allied's U.F. Concentrate-85 improves water resistance, increases sheet capacity and burst strength, cures rapidly, permits materials handling advantages not possible with urea and formaldehyde as separate components.

An Allied technical service specialist will be glad to give you details about ammonia as a pulping base and U.F. Concentrate-85 for starch coatings and adhesives.



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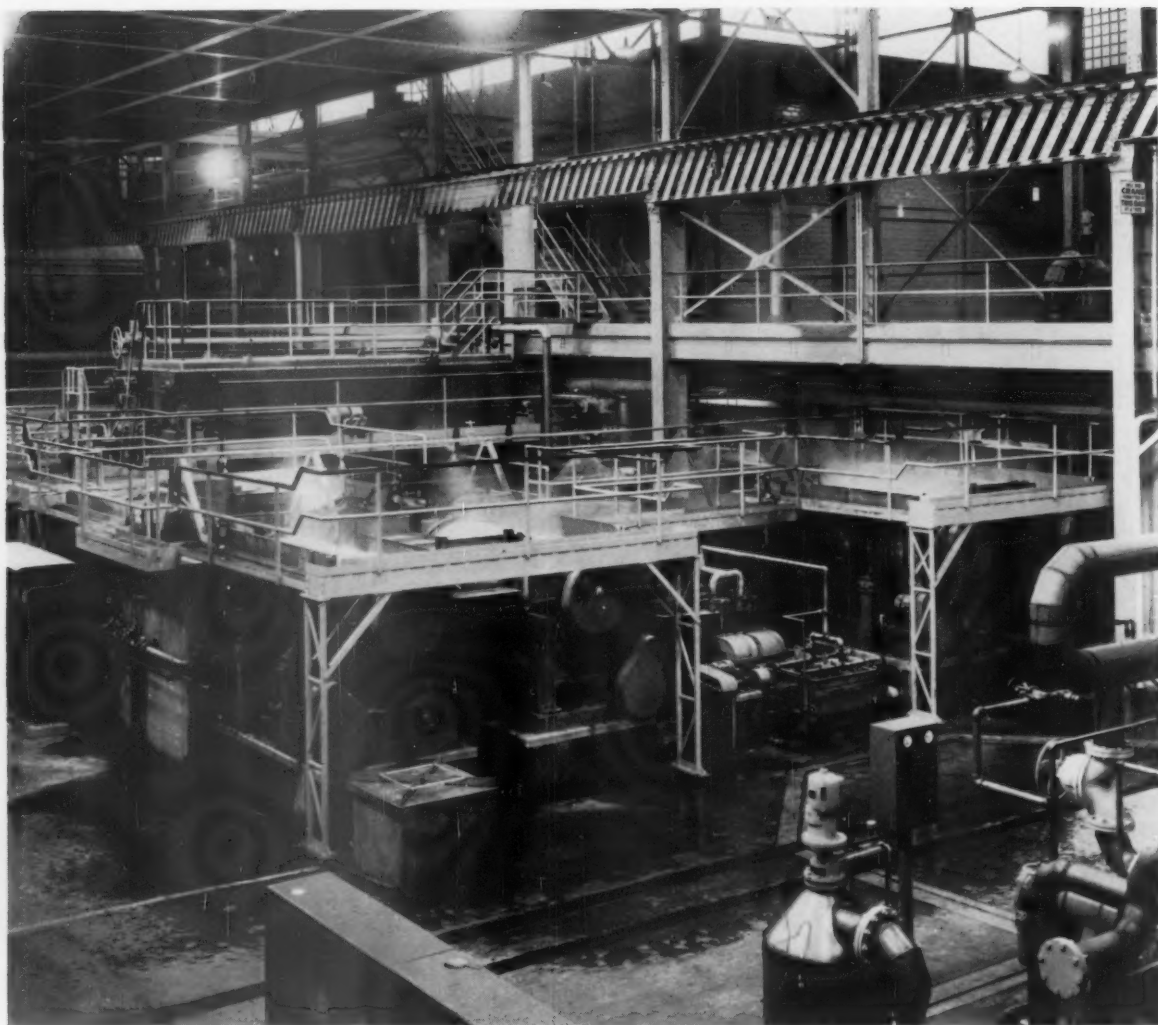
Open frame construction, faster roll changes, perfect alignment of rolls regardless of diameter, elevators, hydropneumatic pressure systems, and built-in cranes, are but a few of the advanced features which have already caused six of America's leading paper mills to order Rice Barton-Eck Supercalenders.

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A Special PULP & PAPER Panel Discusses College Recruiting 39

As schools reopen, experts from coast to coast offer your companies some sound advice on what to do . . . and NOT to do. An important tip . . . get started pronto!

A Swedish Brown Stock Washer is Introduced in North America 45

A new principle is utilized in equipment now in successful operation on kraft pulp at International Falls Division of Minnesota & Ontario Paper Co.

Extensive Additions Improving Operations of Kraft Mill 46

Nekoosa, Wis., mill of Nekoosa-Edwards Paper Co., in throes of expansion and plans are also announced for recently acquired Potsdam, N.Y., mill.

How a Remote Mill Solved Its Problems of Maintenance 48

At Filer City, Mich. American Box Board Co. builds new machine and construction shops. Some highlights of its filing system for maintenance are also told.

Ruth Shallcross Puts Her Microscope Over "Productivity" 51**Consumers Inspect New Hinton Pulp Mill . . . Their Verdict 56****Sales and Earnings Report 59 Sloan Report Stirs West 55****Shell's Laboratory Facility 60 Stock Preparation at Camas 62****Dupont's Versatile Machine 61 APPA Report on Safety 59****● PULPWOOD SECTION****Highlights of Past Decade . . . What Next 10 Years May Bring 105**

On the occasion of tenth anniversary of this PULPWOOD SECTION, our editors in North and South, East and West, take a peek in forest industry "crystal ball."

New Barker for Small Logs . . . CZ Dedicates a Forest Farm in West 114**How Weyerhaeuser Is Preparing its Southern Timberlands 113****● OTHER DEPARTMENTS****The Editor Reads His Mail 5****Monthly Report 7****World General News 15****World Technical News 17****How-To-Do-It 54, 62****The Old Timer 54****Strictly Personal . . . news of people 148****New Equipment 160****The Last Word—P & P's Editorial Page 182****About Our Cover . . .**

The hard sell comes to college recruiting. Apparently the young man is being interviewed for a job. The truth is he is being wooed by industry to the extent that sometimes he does the interviewing. Because, today this young man and his counterparts across the nation are being "rushed" by industry. Four of the 11 colleges featured in our recruiting story (page 39) are also shown. From top down, U. of Wisconsin, Northwestern U., Cornell and U. of Illinois.

CIRCULATION DEPT., 500 Howard St., San Francisco 5, Calif. C. C. Baake, Circ. Mgr. Send subscription orders and changes of address to PULP & PAPER, above address. Include both old and new addresses.

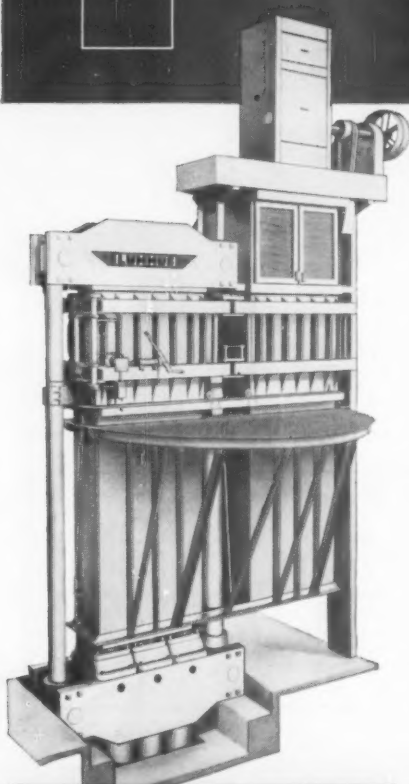
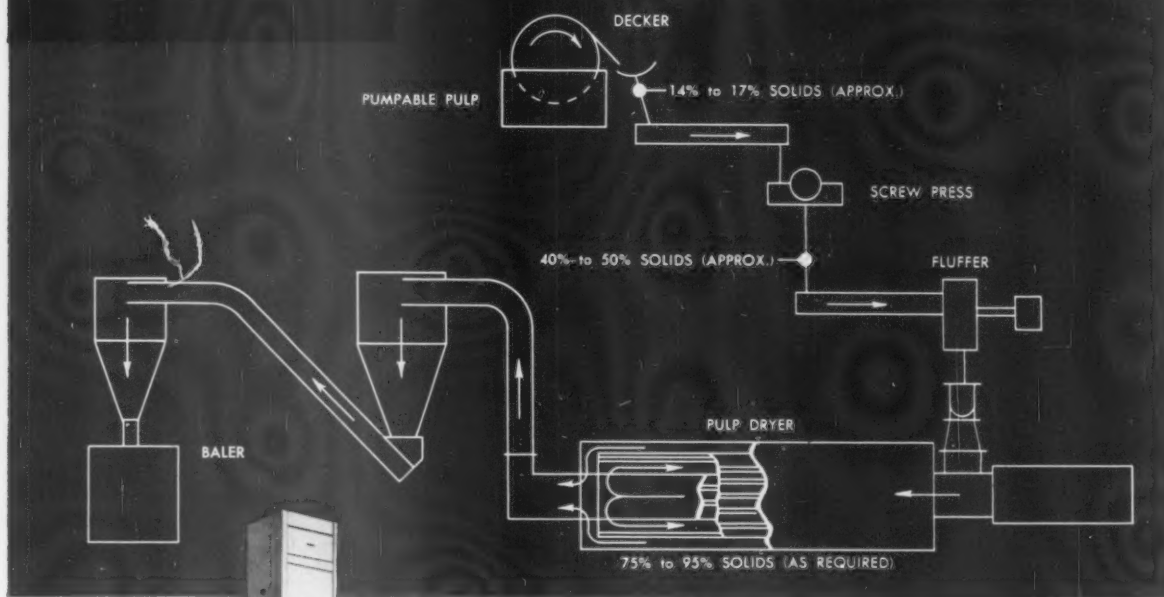
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for shipment
or storage...**



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PULP & PAPER

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WILLIAM B. FREEMAN President
LAWRENCE K. SMITH Vice President
MILLER FREEMAN JR. Secy-Treas.



Office of Editor
1791 Howard St.
Chicago 26, Ill.
ROgers Park 4-3420



Advertising &
Production Office
370 Lexington Ave.
New York 17, N. Y.
MUrrayhill 3-9294

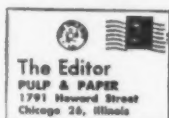
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A Question about Labor in South

—Boston, Mass.

Editor: Referring to the article "What Does Sawmill Chipping Cost?" by G. W. Brumley and C. M. Mathewson, St. Marys Kraft Corp. (July 1957 issue of PULP & PAPER), is it not a fallacy to figure that any man will perform even the most humble of operations today for \$1.00 per hour?

C. E. PATCH

Pulp and Paper Engineer

The Author Replies

—St. Marys, Ga.

Editor: In answering Mr. Patch's question let me say that it has been my experience to find that with the exception of skilled labor, the average labor rate at the sawmills in Georgia and Florida is \$1.00 per hour. This might not apply to large sawmills located in or close to large cities, but certainly applies to the majority of sawmills. In fact, raising the minimum wage from 75¢ to a dollar per hour has put many of the smaller mills at a great disadvantage and resulted in many of them having to shut down. If there are further questions regarding points brought out in the article I will be happy to try to supply answers.

C. M. MATHEWSON

Manager, Wood Procurement,
St. Marys Kraft Corp.

Bouquets for WORLD REVIEW

New York, N.Y.

Editor: . . . The PULP & PAPER World Review is both complete and useful.

DAVID L. LUKE, President

West Virginia Pulp and Paper Co.

St. Paul, Minn.

Editor: . . . a first-rank job of journalism, and everyone in the pulp and paper field is indebted to you for the comprehensive job of reporting and analysis you and your staff have done.

ELWOOD R. MAUNDER,

Director,

Forest History Foundation, Inc.

Paris, France

Editor: . . . a very useful document.
ROGER ESSELIN, Editor
Papier Carton et Cellulose

New York, N.Y.

Editor: . . . enjoyed reading your very interesting WORLD REVIEW NUMBER.

I. ROTHSCHILD, President,
Vita Mayer & Co.

New York, N.Y.

Editor: Congratulations on your WORLD REVIEW NUMBER!

C. LESTER HORN
Business Consultant

New York, N.Y.

Editor: . . . just spent three hours carefully perusing your momentous WORLD REVIEW NUMBER 1957. I do not think my time could have been spent to better advantage.

C. B. OVERTON, President,
Castle & Overton, Inc.

Chester, Pa.

Editor: . . . certainly sets a high standard for publications.

PAUL C. BALDWIN, Vice President,
Scott Paper Co.

Montreal, Que.

Editor: . . . a most valuable contribution to the industry.

DUGGAN GRAY, Director, Pulp
Sales,
Columbia Cellulose Co., Ltd.

New York, N.Y.

Editor: . . . just passed along a badly worn copy of your 1956 WORLD REVIEW NUMBER and delighted to replace it with 1957. Am amazed at the job you do.

EDWARD McSWEENEY, Vice Pres.,
Perkins-Goodwin Co.

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Editor: . . . a very interesting and fine issue.

ALBERT BLATTMANN, Vice Pres.,
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General Outlook . . .

"IT'S BEEN ONE YEAR SINCE OUR LAST PULP PRICE INCREASE," explains a market pulp sales manager to P&P. "In four years pulp prices have gone up \$10 a ton. I know of several grades of paper which went up about \$50 a ton. In this same period, wages went up more than 20%, freight is up, and it would be interesting to know how much chemicals, felts, wires, etc. have gone up."

Some pulp consumers had expected an increase for the second quarter, but no market pulp producer dared it with the soft market. As the fourth quarter neared, pulp producers, faced with the ever-tightening profit squeeze and higher operating costs, took the plunge. Price increases ranged up to \$5 a ton for most grades.

LONG-TERM PROSPECTS LOOK BRIGHT for the pulp, paper and paperboard industry, according to Calvin Bullock, Ltd., managers of mutual funds. Not lack of demand but a relatively large and rapid increase in capacity is the crux of the problem, but the industry's demonstrated and anticipated growth should correct maladjustments without excessive difficulties. Over the long term, they said, the industry continues to have desirable investment characteristics. . . .

ABOUT OLD PLANTS AND NEW. . . . Present temporary excess capacity in mills is not cutting back the really sound long term expansion programs. They are going right ahead as if nothing has happened. This is testimony to the basically healthy times we are living in. It probably also indicates this industry is determined to keep its plant establishment up to the minute. New process changes, new products, in many cases, make it more economical to build new plants than to re-vamp old ones. The question is: Can old facilities be operated profitably in the face of new capacity, even with peak demand?

STILL IS "LEAST CONCENTRATED" INDUSTRY. . . . Notwithstanding many mergers that have taken place, the pulp, paper and paperboard industry remains one of the most competitive and least concentrated of all major industries. So says C. Lester Horn, New York business consultant, who recently reprinted world-wide industry statistics from PULP & PAPER'S WORLD REVIEW NUMBER for subscribers to his periodical reports. . . .

INTERESTING FORECASTS. . . . A luncheon companion (of much experience and wisdom) sees the day when there will be combines of chemical companies and pulp companies, for the purpose of building chemical plants alongside the pulp mills, enabling more complete utilization of the tree. . . .

NATION'S PACKAGING BILL WILL ZOOM TO \$13 BILLION BY 1962, from present figure of \$10 billion yearly, according to the technical adviser to American Management Assn.'s packaging director. . . .

NO. 1 PROBLEM IS GETTING FUNDS FOR EXPANSION to satisfy predicted doubling of world newsprint demand by 1980, the Newsprint Information Committee reports. Other challenges are to attract and hold a big labor force, to get big volume of cheap electric power, to find and handle large quantities of water, to increase wood supply and to handle large amounts of newsprint. . . .

Please turn page for more

A \$.95 SAVING PER TON OF PAPER* with

Size Requirements (without Nalco 680) . . . 30.25 lb.
Size Requirements (with Nalco 680) . . . 21.60 lb.
Pounds of Size Saved . . . 8.65

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Pounds of Alum Saved . . . 10.00

Savings on Size (at 15.3 cents per lb.) . . \$1.32
Savings on Alum (at 2.2 cents per lb.) . . .22
\$1.54

Less Cost of Nalco 680
(at 10.7 cents per lb.)59

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STABILIZED *Sodium Aluminate*



**Cutting size and alum requirements is only one advantage of Nalco 680 — the best, the most stable commercial grade sodium aluminate you can buy! Use it for higher pH and lower acidity!*

Don't confuse the production saving in this case history with a cutback in essentials. This mill makes fine writing paper, and quality is the number one requirement.

How Nalco 680 improved specifications while cutting the cost is obvious in the following: *Size test ratings jumped from a range of 45-50 up to 50-60. Ash content went from 5.6-5.8% to 7-7.1%.*

There are many, many other case histories of Nalco 680 success — power savings, greater alumina retention, cleaner machines, better products.

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SYSTEM...Serving the Paper Industry through Practical Applied Science

LOOK FOR DEVELOPMENT OF LABRADOR TIMBER. . . . British Newfoundland Corp. Ltd., formed in 1953 to develop resources of Newfoundland and Labrador, is seeking consumers for its potential power development at Hamilton Falls in Labrador. A survey of the company's concession at the western end of Lake Melville, Labrador, conducted by J. O. Wilson, revealed 8-10 million cords of high-grade pulpwood, about 70% of it black spruce. . . .

Mills and Mill Plans . . .

ENGINEERING PROCEEDS FOR CALIFORNIA MILL. . . . Simpson Timber Co., Seattle, one of major timber firms of the West, and Fibreboard Paper Products Corp., San Francisco, have renewed their interest in the joint project for a pulp and paperboard mill at Samoa, near Eureka, Calif. Claude Stitt, veteran Fibreboard engineer, is project engineer, directing investigations and carrying on engineering planning. It is not likely, as it appears now, that construction will begin before 1959.

BOISE CASCADE TO BUILD MILL. . . . Boise Cascade Corp. will build a multi-million dollar pulp and paper mill and container plant on the Columbia River 30 mi. west of Walla Walla, Wash. Robert V. Hansberger, pres., says mill production will start 18 to 24 months from now, the container plant later. The two operations, Columbia Kraft and Columbia Container, will be wholly owned subsidiaries of Boise Cascade. A central engineering office at Attalia, near the site, includes W. O. Hisey, chief of central engineering, Boise Cascade, and vice pres. of Columbia Kraft; Keith Miller, chief engineer, paper section; George Wilhelm, engineer, lumber section; John B. Fery, asst. to pres., Boise Cascade; Hugo Trygg, mill mgr., Columbia Kraft; and Wm. Farley, plant mgr., Columbia Container. The paper machine is to be 150-in. trim and have a secondary headbox for bleached kraft stock. . . .

PLAN \$5 MILLION PULP MILL. . . . Porcupine Forest Industries, Ltd., plans a 150 ton-per-day semi-chemical pulp mill at Timmins, Ont., with provision to double capacity. Construction, to begin in 1958, is to be complete early in 1959. Feldman Timber Co., Ltd., Rudolph-McChesnay Lumber Co., Ltd., and A. E. Wicks, Ltd., are backing the project and already have 300,000 acres in timber limits around Timmins. . . .

SEEKS FIRM TO BUILD MILL. . . . The Provincial Government of Manitoba, Canada, is looking for a technically qualified, well-established company to build a mill in northern Manitoba, using large timber resources. The Manitoba Hydro-Electric Board has already begun construction of a power plant to produce power for the mill. Write to the Dept. of Industry and Commerce, Legislative Bldg., Winnipeg, Canada.

\$500,000 EXPANSION WILL INCREASE SIZE of Fort Wayne Corrugated Paper Co.'s Chicago corrugated box manufacturing plant by 27%. The additional 47,700 sq. ft. of floor space is expected to be completed by the end of 1957, Harold M. Treen, president, says. . . .

INLAND CONTAINER ADDS BOX PLANTS. . . . Two new corrugated box plants, one in Chicago and one in Evansville, Ind. will add 290,000 sq. ft. of manufacturing space for Inland Container Corp. of Indianapolis, Ind. . . .

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New Felt Structure



*Born from an
idea...developed
thru years of
research —*

the **NEW TENAX***
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Serving the Papermakers Since 1891

NEWFANE, N. Y.

STARKVILLE, MISS.



ENTERS EASTERN CANADIAN FIELD. . . . Westminster Paper Co., in which Scott Paper Co. owns a substantial interest, has purchased the Crabtree Mills operation of Howard Smith Paper Mills near Montreal, Que. The mill will make fine paper and tissue for the eastern market, including Scott trademark products. J. S. Gilham continues as mill manager. . . .

NEW GROUP TAKES OVER MILL PLANS. . . . Gordon McNab and Roy Morton are taking over plans to build and operate a pulp mill in the White Court area, since Antler Wood Products, Ltd., let its agreement with the Alberta government lapse. A \$40,000,000 mill on the Athabasca River, 110 miles northwest of Edmonton, is proposed, supported by timber from 5,000 sq. mi. . . .

EXPANSION OF FLORIDA MILL. . . . Procter & Gamble's annual report confirms expansion proceeding at its subsidiary Buckeye Cellulose Corp. pulp mill at Foley, Fla. P&G's net sales for the 1956-57 fiscal year totaled \$1,156,389,726, highest in the company's 120-year history. Earnings reached a record high of \$67,807,376, compared with \$59,316,471 for the 1955-56 fiscal year. . . .

CAPITAL IMPROVEMENT BUDGET RAISED. . . . Leslie M. Cassidy, chairman, Johns-Manville Corp., said the firm will spend over \$40,000,000 on capital improvements this year. This is \$3,000,000 more than an earlier estimate and is a result of plant construction proceeding faster than expected. Six plants are scheduled to go into operation in the next ten months. . . .

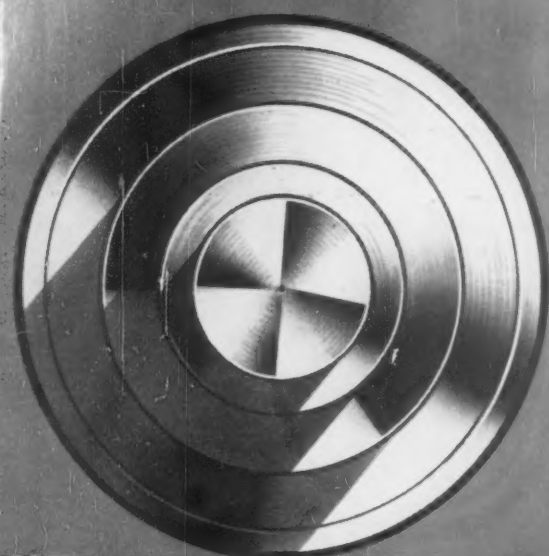
CONTRACT AWARDED FOR MILL. . . . Daniel Construction Co. of Greenville, S.C., was awarded the contract for a \$38 million woodpulp mill at Catawba, S.C., for Bowaters Carolina Corp., subsidiary of Bowater Corp. of North America, Ltd. Bowaters Research & Development, Inc., Calhoun, Tenn., will engineer the project. Work is to start at once, with completion by mid-1959. Capacity will be 130,000 tons annually of semi-bleached pulp from native pine, to supply Bowater paper mills. . . .

MAKING STUDIES FOR B.C. MILL. . . . Western Plywood Co. is conducting engineering and financial studies for a proposed 300 ton sulfate pulp mill near Quesnel, B.C. John Bene, president, says the government has approved in principle a forest management license application to provide sufficient pulpwood. Sandwell & Co., engineers of Vancouver, B.C., is making preliminary surveys. . . .

START UP NO. 7 MACHINE AT THILMANY. . . . A new machine, built by Black-Clawson and designed to produce machine glazed papers, has started up at Thilmany Pulp & Paper Co., Kaukauna, Wis. The machine makes 147-in. wide paper, designed for speeds up to 1,300 fpm. A 15-ft. diameter dryer, cast in England, boilers and converting equipment are other items in the \$5,000,000 expansion program now completed. . . .

WINS BID ON 6,000,000 CORDS OF PULPWOOD. . . . James B. Edens, president of Southwest Lumber Mills, Phoenix, Ariz., reported to stockholders that the firm was successful bidder on a 30-year pulpwood contract in the Colorado Plateau area, which takes in Southwest's McNary-Flagstaff operating area. The contract provides that pulp and paper operations begin in 1962, with construction starting in late 1959.

Please turn page for more



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FIRST NEWSPRINT MACHINE IS DUE TO START at MacMillan & Bloedel's mill in Port Alberni, B.C. The company recently installed a new kraft paper and board machine which is now operating satisfactorily.

"A NEW PRODUCT" WILL BE MADE by the Mt. Tom Development Corp. which has taken over the Mt. Tom (near Holyoke, Mass.) mill of Doeskin. Consulting engineer Roderick O' Donoghue is president, Aubrey T. Taylor (formerly vice president and plant mgr., at National Container's Big Island, Va. mill) is secretary. Insiders guess the new product will be NSSC pulp.

Other News . . .

TERMS OF SETTLEMENT IN IP-LONG-BELL LUMBER MERGER require International Paper Co. to sell during the next ten years at least 40% of the production of its West Coast facilities to independent wholesalers and converters in the region; not to acquire any interest in any competing paper company for ten years; and to sell a 12% stock interest in Longview Fibre Co. . . .

CANADIAN PRODUCTION CONTINUES HIGH. . . . During the first half of 1957, newsprint shipments were slightly higher than in 1956, chemical pulp shipments were down about 2%, book and writing paper production was up, while paperboard output was down 3% and wrapping paper down 8%. High premium on the Canadian dollar caused newsprint exporters to the U.S. a loss on exchange of almost \$15,000,000 so far this year, or almost \$6 per ton. . . .

PAPER AND BOARD OUTPUT DOWN SLIGHTLY in the first six months of 1957. Paper production was 7,608,000 tons and board production, 7,920,000 tons, for a total of 15,528,000. This is 3.4% less than in the same period last year. . . .

MADE TO CALIPER INSTEAD OF REAM WEIGHT is a new offset packaging paper by Riegel Paper Corp. Some features: special "toothy" surface to prevent slipping or creeping under plates or blankets; strength, resiliency and long life due to special blend of jute fibers which prevent crushing or breakdowns during long press runs. . . .

PAPERBOARD'S PRODUCTIVE ACTIVITY HOVERS AROUND 90% or better; first seven month's total was 7,925,606 tons. Fall pick-up should bring 1957's production to well over 15 million tons — possibly 16 million — and that's not so bad. . . .

WILL FIREPROOF TREES. . . . Great hopes are placed on sodium calcium borate to retard spreading forest fires in Canada. Suspended in water, the sodium calcium borate, when released from an aircraft will fireproof trees. The product will not put out flames but will insulate treated stands which will act as a fire block. . . .

SCOTT PAPER TO BUY JOA STOCK. . . . Scott Paper Co. has agreed to acquire 17% stock interest in Joa Co., Lake Wales, Fla., with an option to acquire all its assets by Dec. 31, 1960. This marks Scott's entry into the sanitary napkin field. . . .

PULP CONSUMERS VISITING NORTH WESTERN PULP & POWER LTD. at Hinton, Alta., were much impressed with the quality of the pulp being produced, expressed agreeable surprise that the physical specifications were, at this early date in the mill's operations, so close to the high standards of mullen, folding and tear for which the mill was designed and built. See page 56.

"Farval assures correct, automatic lubrication of Kamyr press bearings"

... says paper manufacturer

FARVAL—
Studies in
Centralized
Lubrication
No. 172

VITAL link in processing pulp, this Kamyr press in a Canadian paper mill must have dependable lubrication for the 8 bearings on each press roll. At best, hand lubrication would be unreliable and time-wasting, because some bearings might be under-lubricated, over-lubricated or missed.

Farval handles job perfectly

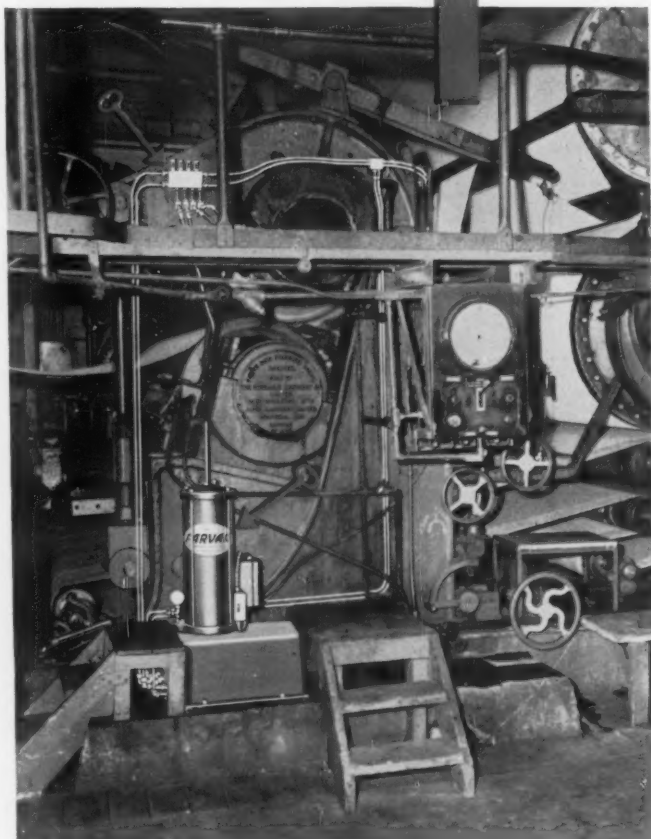
To insure positive lubrication, a Farval Centralized System was installed. It operates automatically—no shutdown required. It delivers the *exact* amount of lubricant needed to each bearing served—no more, no less—at the specified intervals. Bearings are protected, production is uninterrupted.

These Farval advantages, reports the mill management, represent longer bearing life and a savings in lubricant. Even more important, "Definite assurance that lubrication is being correctly and automatically carried out".

Many money-saving advantages with Farval

Farval is a simple practical system of centralized lubrication that can be installed on old or new equipment. It can be manual or automatic, meet any need from a few to scores of bearings. Often it pays for itself in a few weeks or months. Find out how a Farval System can improve your operations, help maintain steady production, cut your costs. Write today for free Bulletin 26. The Farval Corporation, 3268 East 80th Street, Cleveland 4, Ohio.

*Affiliate of The Cleveland Worm & Gear Company, Industrial
Worm Gearing. In Canada: Peacock Brothers Limited.*



Automatic Farval Centralized Lubrication System installed on a Kamyr press at Howard Smith Paper Mills Ltd., Cornwall, Ont., Canada.

KEYS TO ADEQUATE LUBRICATION—Wherever you see the sign of Farval—the familiar valve manifolds, dual lubricant lines and central pumping station—you know a machine is being properly lubricated. Farval manually operated and automatic systems protect millions of industrial bearings.



Beloit Execs in Europe

London . . . Harry C. Moore, president; Lon Neese, vice president, and E. H. Neese, Jr., vice president, all of Beloit Iron Works, are on a tour of European countries until mid-October. They have been here since mid-September and it is reported they are making plans for an important expansion of Beloit papermaking machinery manufacturing facilities at a site in Continental Europe. . . .

Voith Building Venezuelan Mill

Caracas . . . J. M. Voith GmbH, Heidenheim/Brenz, West Germany, is building a new paper mill near Puerto Cabella, Venezuela, for VENE-PAL (C. A. Venezolana de Pulpa y Papel), at a cost of over \$2,800,000. The mill will have two paper machines, producing mainly kraft from pulp imported from the U.S. and Scandinavia. Later a bagasse pulp mill will be erected on the site. . . .

3 U.S. Machines for Poland

Newport, Eng. . . . One of the largest orders for Western capital equipment from Poland has been received by Parsons & Whittemore-Lyddon Organization. Three machines for a new mill in Poland will be made at the Black-Clawson plant here. Each will be 168 in. wide, making 250 tons daily of kraft, bag and machine-glazed wrapping paper. Total order is for \$6,000,000 in machinery. . . .

Break Ground for Israeli Mill

Hadera . . . Work has begun on American Israeli Paper Mills' two-year, \$10 million expansion program which includes a Beloit Machine Works (U.S.A.) paper machine and a pulp mill with a Pandia continuous digester. Production of the present mill will also be boosted. The new machine which will make lightweight papers, is designed for initial speed of 1,500 fpm. Total paper production of the mills will be 33,000 short tons per year. The pulp mill and bleach plant will produce about 16,500 tons annually from cornstalks, straw and bagasse.

Build West German Plant

Bonn . . . Kimberly-Clark Corp., Unilever, N.V. of Rotterdam and Aschaffburger-Zellstoffwerke A.G. of Aschaffenburg have a one-third interest each in a new crepe wadding plant

scheduled to start up this fall at a West German site. The plant will make tissues for the European market.

Survey For Mill in Vietnam

Saigon . . . Henry Perry, former director of the Waste Paper Utilization Council, is in Vietnam as consultant of the International Cooperation Administration. He is assisting in a survey for a possible pulp and paper industry.

Urge Use of Bagasse in Australia

Townsville, Queensland . . . Southern European migrants have brought a surplus of labor in North Queensland's rich sugar cane belt, with the result that labor organizations are requesting establishment of a paper industry there, using bagasse as raw material. The Queensland government is urged to offer inducements.

Orders No. 3 Paper Machine

Felixtown, South Africa . . . Ngoye Paper Mills, on the Natal Coast 100 mi. northeast of Durban, is ordering a new machine to make "Canefibre" fluting from bagasse. The machine will be wide enough to produce reels to suit modern corrugating machines in Great Britain. The Ngoye mill started up a 138-in. No. 2 machine early in 1956.

Five Year Plan in East Germany

Berlin . . . The current East German five-year plan aims to increase per capita paper consumption from the present 79.2 lbs. to 103.4 lbs. Eight new paper machines with annual capacity of 180,000 tons and improvements of existing machines are to supply the additional 242,000 tons necessary to reach the target. The East German press criticizes the industry because it takes eight workers a day to produce one ton of cellulose, while in Scandinavia the daily output is two tons for three workers.

Swedish Exports Up

Stockholm . . . Chemical pulp exports from Sweden increased from 962,500 short tons during the first six months of 1956 to 1,064,800 tons during the same period in 1957. Paper and board exports rose from 484,400 to 550,000 tons.

India Mill Starts Two Machines

Dalmianagar, India . . . Rohtas Industries Paper Factory recently started up two new Yankee machines, Nos. 4

and 5, imported from West Germany. Each has capacity of 6,600 tons per year. They will produce M.G. kraft, poster paper, colored sulfite, M.G. tissue and bank, bond and ledger papers. The mill will have nine machines when the First Five Year Plan is completed. No. 6 machine, now being erected, will make high grade papers.

Pulp Imports to France Rise

Paris . . . Demand for pulp has increased sharply in France, resulting in a 250% increase in semi-chemical imports in the first quarter of 1957 compared with 1956, 56% increase in bleached soda, 40% increase in unbleached sulfite and 35% increase in bleached straw.

Bowater Subsidiary Expands

Athy, Eire . . . Irish Wallboard Co., subsidiary of Bowater Paper Corp., is investing \$560,000 in expansion and new machinery. The only Irish firm producing hardboard, the company will increase production from 30 million sq. ft. to 50 million sq. ft. per year.

Mexican Mill Opens Next Year

Tuxtepec . . . Mexico's only newsprint mill, Fabrica de Papel Tuxtepec S.A., is scheduled to begin production next June. Initial output will be 20,000 tons, increasing to 35,000 tons in 1959. Eventually the plant is to be expanded to 80,000 tons annually, about half of Mexico's newsprint requirements. About 49% of the firm's \$14,400,000 capital is being provided by Nacional Financiera and the rest by U.S. and Canadian investors, including Anglo-Canadian Pulp & Paper Mills, Ltd. Within eight years majority control must be turned over to Mexicans.

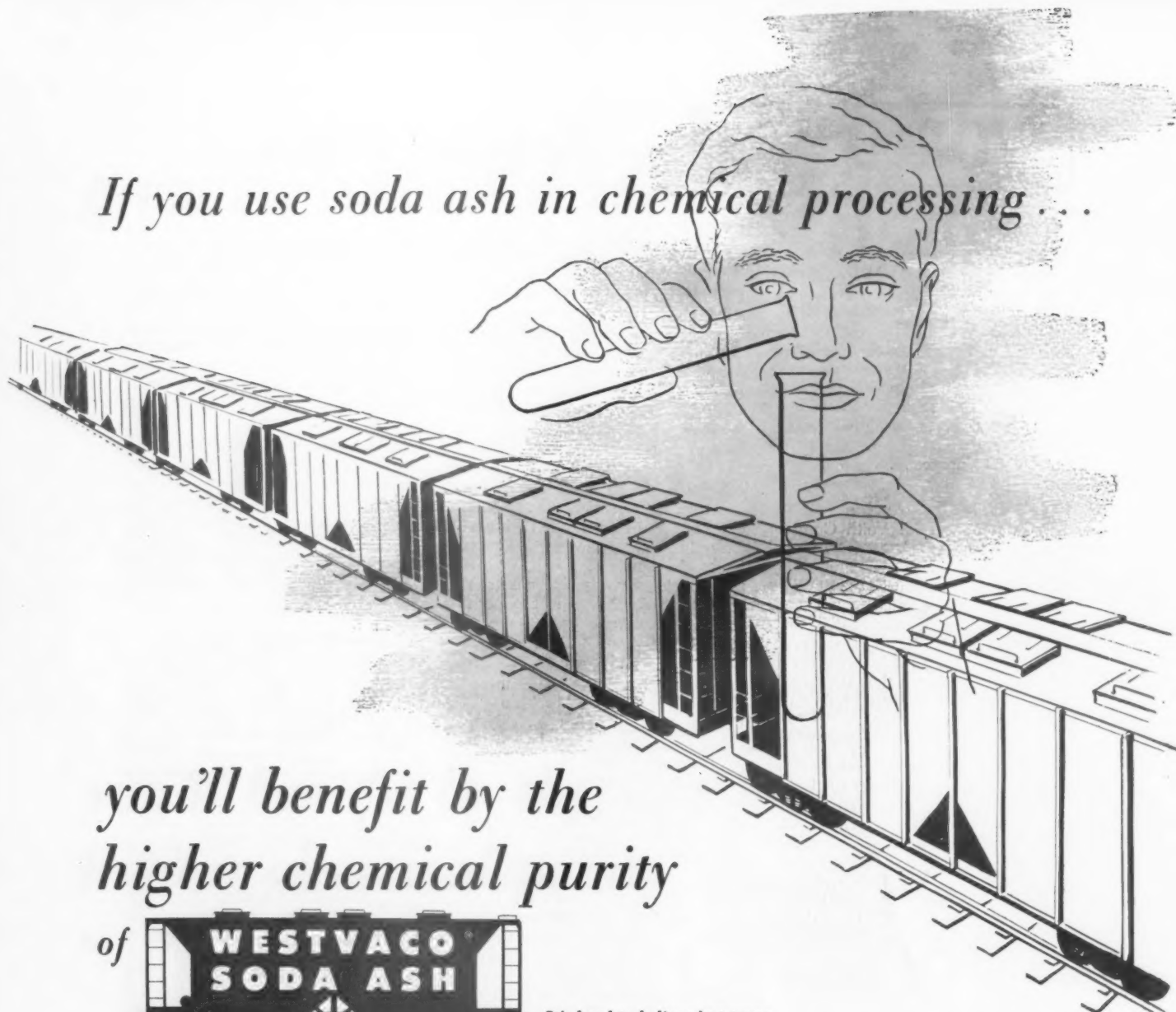
To Manage New Zealand Mill

Whakatane, N.Z. . . . Maurice L. Hobday is appointed director and gen. mgr. of Whakatane Board Mills Ltd., succeeding Ernest B. Brown who died recently.

Czechoslovakia To Get New Mill

Prague . . . A kraft pulp and paper mill is being built at Steti, on the Elbe, about 88 miles north of Prague. It will have a Swedish paper machine with a daily production of about 35 tons. Other equipment is being supplied by Finland.

If you use soda ash in chemical processing . . .



*you'll benefit by the
higher chemical purity*



It's hard to believe but true:

Westvaco Soda Ash consistently analyzes 99.75% to 99.88% pure. That means more Na_2CO_3 per ton, less inherent impurities and little likelihood of need for prior purification in any chemical-process use.

As a user, you'll appreciate these advantages, too:

Westvaco Soda Ash is entirely ammonia-free.

It cannot cause process difficulties or corrode equipment.

It contains only a mere trace of chloride and sulfate so it can be used in processes that cannot tolerate chlorides or their build-up in a recycling process.

It is low in trace elements, too. Boron under 8 ppm conforms to AEC specs. Heavy metals under 3 ppm meets Food Grade Specification.

Chemical-process users of Westvaco Soda Ash report complete satisfaction with its extra-high quality. We believe you will, too. It's well worth looking into now—while you're thinking about it.

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Cross Section of European Technological Advances

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By Curtis L. Brown

Bleaching Dissolving Pulps . . .

SIHTOLA, HANNES, HENTOLA, YRJO, KAKKARAINEN, NILO, VIRKOLA, NILS-ERIK, SAARINEN, ARVI, WIGREN, GUNNER, ULMANEN, TAPIO, and SAXEN, ERIK. Svensk Papperstidn, 60, no. 11: 412-19 (June 15, 1957). [In English; Swedish and German summaries]; Bull. Inst. Paper Chem. 27: 1369.

The purpose of this study was to determine the optimum conditions of chlorine dioxide bleaching (I) and its most advantageous placement in a multi-stage bleaching sequence. The optimum pH for (I) was found to be 5.5-6.0; increasing the temperature to 70°C. and prolonging the retention time to 3 hr. proved to exert favorable effects. Placing the (I) before an alkaline extraction did not give any significant advantage; when placed after the alkaline extraction, however, it improved the brightness of the pulp more markedly than did a hypochlorite stage. The alpha-cellulose content and viscosity of the pulp decreased only negligibly on (I), whereas peroxide and hypochlorite caused a strong viscosity decrease to obtain the same brightness. However, the color of mercerized pulp bleached to a given brightness (e.g., 90% G.E.) is markedly inferior after (I) than after hypochlorite or peroxide bleaching. 9 tables, 14 graphs, 6 references. C.L.B.

Tall Oil and Wood Rosin Analyzed

KROHNSTAD, WILLY. A comparison between tall oil rosin and wood rosin based on studies of ultraviolet absorption. Norsk Skogind, 11, no. 5: 186-8 (May, 1957). [In English; Norwegian summary]; Bull. Inst. Paper Chem. 27: 1425-6.

American and Portuguese wood rosin (m.p. 74 and 87°C.), vacuum-distilled tall oil rosin (m.p. 92°), and sulfuric acid-refined tall oil rosin (m.p. 91°) were analyzed spectrophotometrically, and their compositions were

correlated with physical properties. Both wood rosin and tall oil rosin contain approximately equal amounts of abietic acid as the main component. However, wood rosin contains also neoabietic acid, whereas tall oil rosin contains pyroabietic acids. Neoabietic acid markedly affects the melting point and crystallization of abietic acid, whereas pyroabietic acids have little effect. Heat-treated rosin crystallizes readily owing to the isomerization of abietic into neoabietic acid, and is not suitable for the preparation of Bewoid (saponified and emulsified) rosin size. 5 graphs and 3 references. C.L.B.

NSSC Pulp from Hard and Softwood Mixtures . . .

RIESE, W. Semichemical pulp from hardwood and softwood mixtures. Zellstoff u. Papier 6, no. 5: 145-8 (May, 1957). [In German]; Bull. Inst. Paper Chem. 27: 1427-8.

Two-component mixtures containing 0, 20, 40, 60, 80, and 100% of beech, birch, poplar, and sprucewood were pulped by the neutral sulfite semichemical process for 20-40 min., using 12% neutral sulfite and 5-6% soda (based on oven-dry wood). All 36 pulps and mixtures were evaluated for chemical composition (lignin, ash, furfural, and spent-liquor sulfite residue) and physical properties (tear length, burst area, density, folding number, yield, and cooking degree). Lignin values varied between 12% (for poplar) and 24% (for spruce). Ash contents were 1.0-1.5% in all mixtures. The cooking degree, determined by the method of the Pulp and Paper Institute in Heidenau, varied considerably but in a manner predictable from the individual components. Mixtures of poplar, beech, and birch with each other showed only slight variations, whereas the addition of sprucewood considerably increased the cooking degree of all hardwoods. Yields averaged 78%, based on oven-dry wood, with a variation of 11% but without any distinct trend. Tear lengths varied widely between 4000 and 8700 m. at 50°S.-R., depending on the species and proportions used. Mixing poplar or birch with sprucewood seemed unfavorable, whereas addition of long-fibered sprucewood to short-fibered beechwood produced an increase in tear strength. Burst areas and pulp-sheet densities showed the same trends as did tear lengths. Folding numbers varied greatly. Beech-

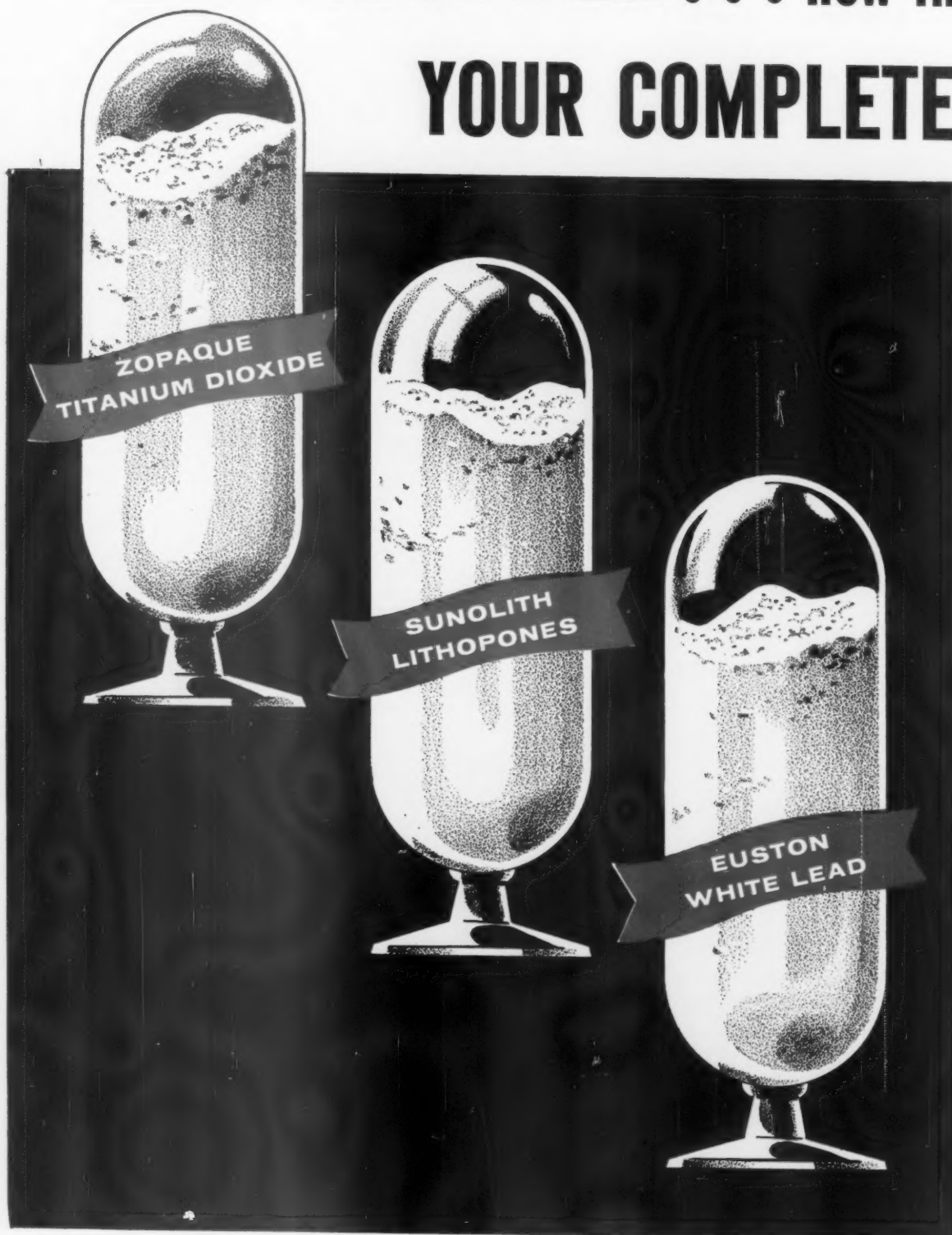
wood pulp showed very bad folding values which were progressively improved by admixture of all other species. Conversely, admixture of beechwood to any other species reduced the strength properties. Since all mixtures were produced by short-term high-pressure cooking, the results obtained are indicative of trends to be expected in continuous plant-scale processing. 3 tables and 5 graphs. C.L.B.

Factors in Aging of Paper . . .

FABRE, J. Chemical criteria of the degradation of oil-impregnated paper in electrical apparatus. Rev. gén. élec. 66, no. 1: 17-26 (Jan., 1957). [In French]; Bull. Inst. Paper Chem. 27: 1387.

Owing to its flexibility and low cost, oil-impregnated paper finds wide application as an insulating material for transformers, condensers, cables, and related electrical components. However, as it undergoes degradation or aging, the paper becomes brittle and loses its mechanical qualities. The exact nature of the aging of cellulose is poorly understood; it is probably a combination of hydrolysis and oxidation, resulting in the splitting of molecular chains and in the opening of glucose rings. Various electrical, mechanical, and chemical methods were investigated for their suitability as criteria of paper aging, and some factors affecting the aging process were studied. Most electrical test methods (dielectric strength and dielectric loss) did not differentiate satisfactorily between new and aged papers; dielectric hysteresis afforded a better differentiation but is essentially a function of the impregnating oil used. Mechanical tests (breaking length and tear and bursting strengths) were inadequate to assess aged papers which are brittle but still serviceable. However, three simple chemical determinations—D.P., copper number, and acid number—offered convenient criteria of the extent of cellulose degradation. They require only a small sample size and permit the course of aging to be followed through all stages. Tests on kraft and manila papers showed no significant differences between the two. Among variables affecting the aging of paper (temperature, water, oxygen, nature of the oil, and oil-oxidation products), temperature and humidity were found to be the most important. 7 tables, 16 graphs, and 36 references. J.S.

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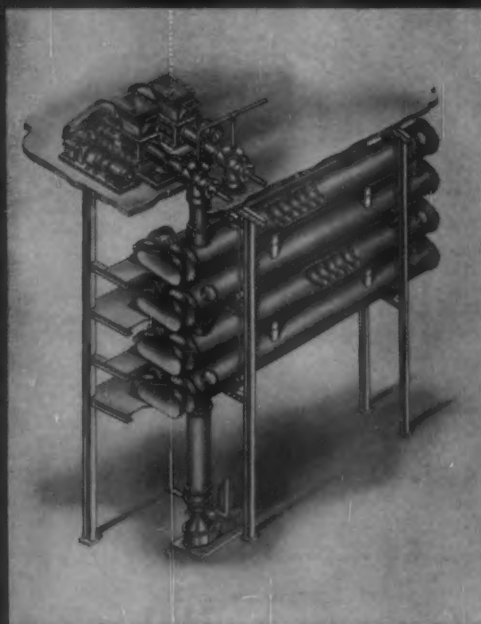
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Approximately 86% of the operating and "in process of building" capacity is in the United States and Canada.

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	Present Production	Tonnage Now Being Built
Felt Pulp (Roofing and Flooring Grades)	420,000	17,500
Building Board Pulp	94,500	35,000
Straw Pulp		24,500
Bagasse Pulp	5,250	
Corrugating Board Pulp	519,750	105,000
Bleached Hardwood		
Neutral Sulphite Pulp	31,500	
High Yield Kraft & Special Pulp	63,000	46,200
Bleached Kraft Pulp	70,000	35,000
Totals	1,204,000	263,200



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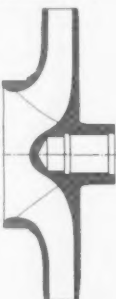


Ingersoll-Rand All-Purpose stock pumps

A. CONVENTIONAL IMPELLER...

For normal stocks up to 4% consistency

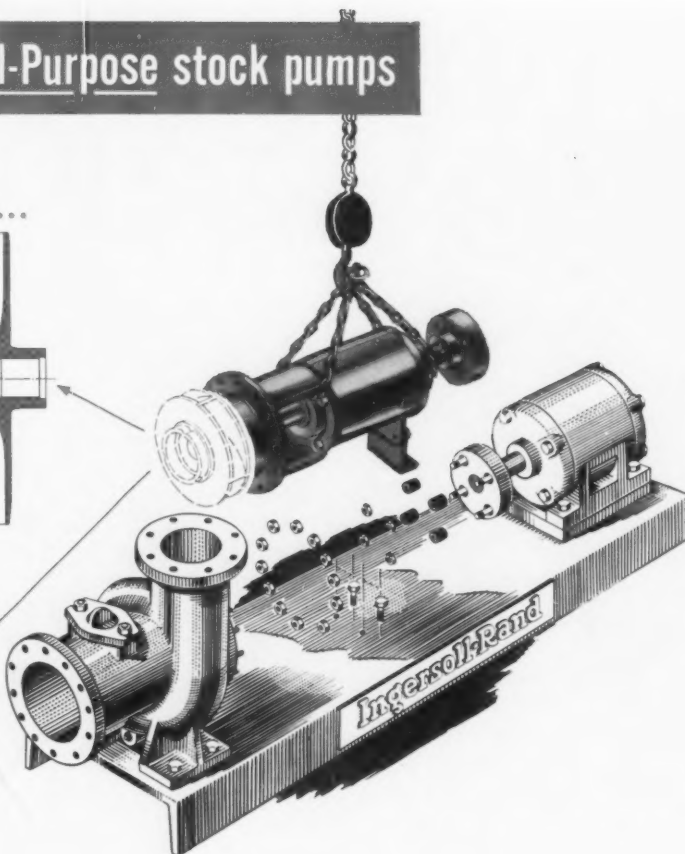
Note that the width decreases from center to periphery. For stocks with concentrations as high as four per cent, this impeller is the most suitable.



B. DIVERGING IMPELLER...

For high consistency or entrained-air stocks

Note how width increases from center to periphery. Material cannot enter fast enough to replace ejected material, and a vacuum forms between blades. Any entrained air or gases pass through the vacuum space without binding; solids and slurries pass through without abrupt acceleration.



You can switch this pump from normal to heaviest stock service... simply by changing impellers and casing rings!

Here, for the first time, is a centrifugal pump which can be converted from handling normal stock (up to 4% consistency) to your heaviest stock... up to 10% consistency, containing large amounts of entrained air or gas. *All you do is switch impellers and casing rings on the Ingersoll-Rand All-Purpose stock pump:* The conventional impeller and the patented diverging impeller (see explanation above) are completely interchangeable.

All other parts are identical, which means you can cut your spare parts inventory at least in half... because one basic pump can be adapted to handle any type stock. This gives you unprecedented flexibility in changing stocks and varying concentrations.

When you convert to the exclusive I-R diverging impeller, you have a pump which will not clog or vapor bind, which is self-venting and self-regulating. It will easily handle industrial liquids which other types of centrifugal pumps cannot handle.

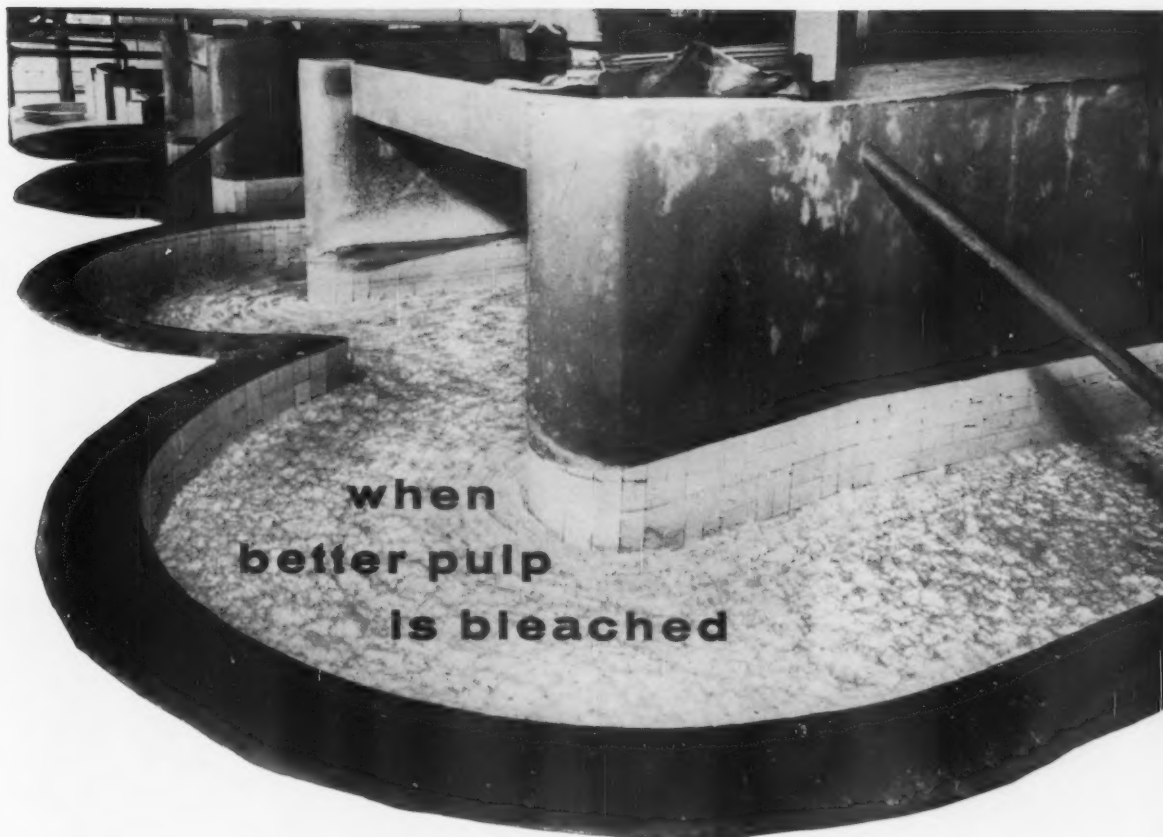
Get complete details on the Ingersoll-Rand All-Purpose stock pump from your local I-R representative, or write direct.

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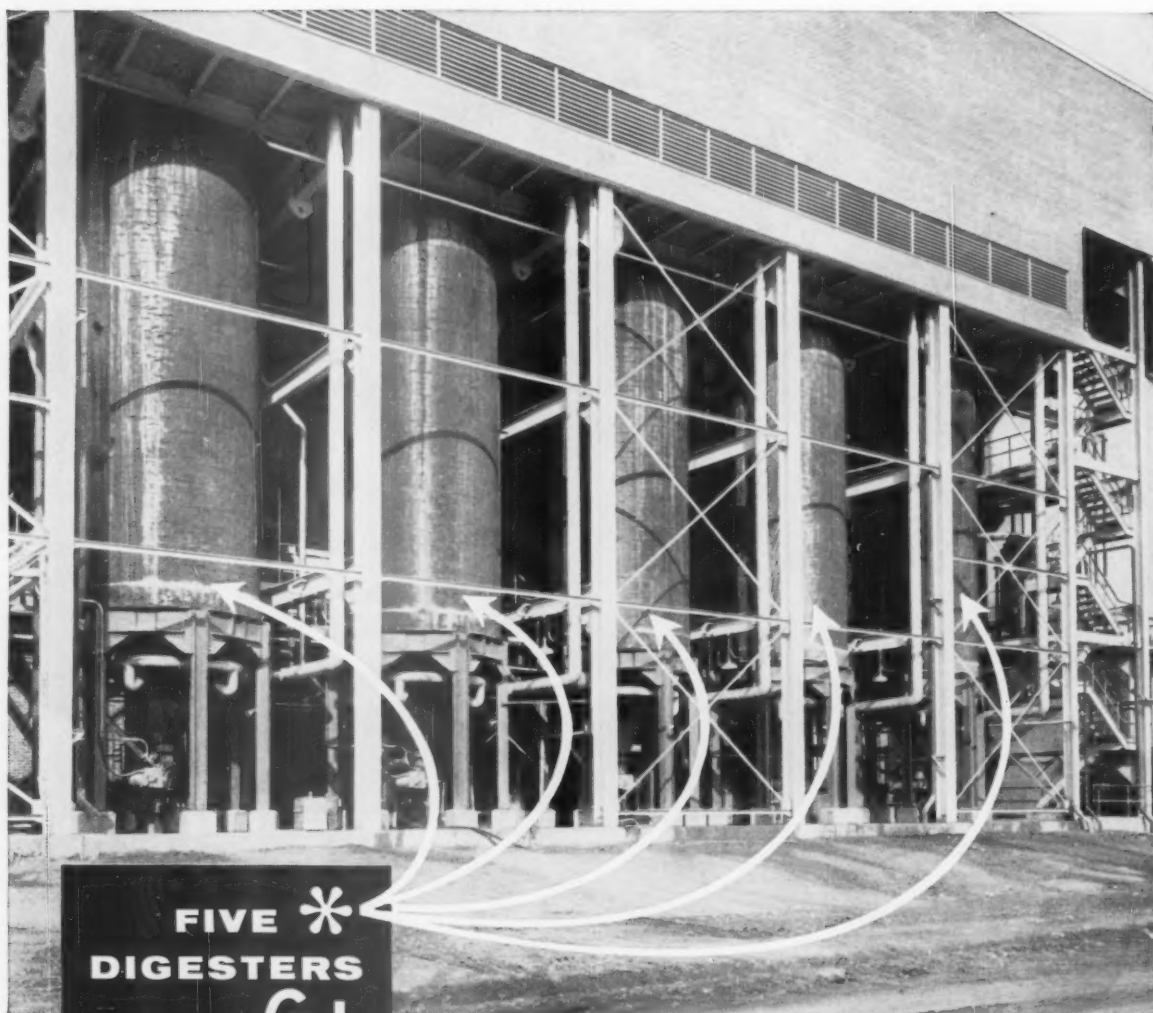
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**FIVE *
DIGESTERS**

built by



... help handle over 400 tons of unbleached sulphate daily for southern mill

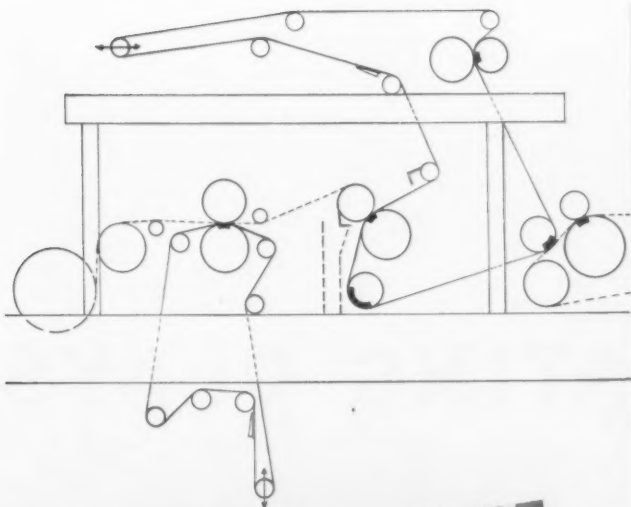
Six digesters, five of which were built by CB&I of A-285 Grade "B" fire box steel, handle over 400 tons of unbleached sulphate daily at the Bowaters Southern Paper Corporation's \$60 million newsprint and sulphate mills at Calhoun, Tenn. Each digester has a shell thickness of two inches and weighs approximately sixty-two tons.

CB&I's facilities for designing, fabricating and erecting steel plate structures are complete . . . including equipment at all four plants for stress relieving, X-raying and pickling and painting. When you plan steel plate structures, write your nearest CB&I office for information, estimates or quotations.



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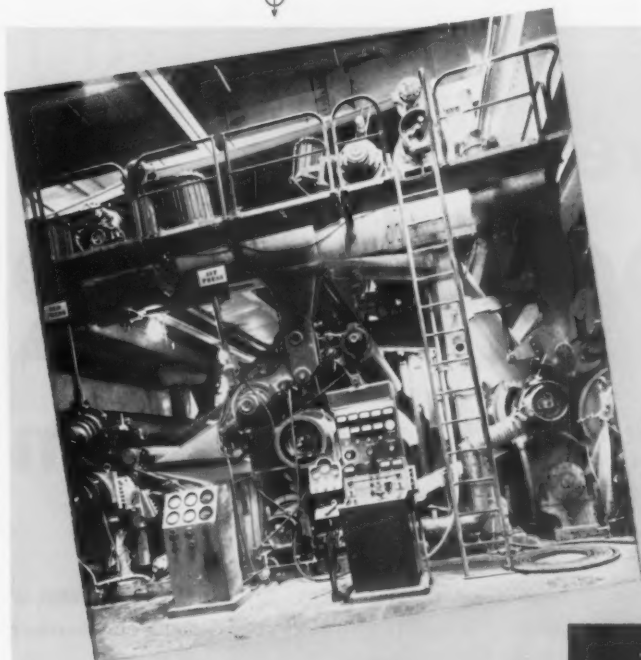
*Fraser adds
Vacuum Pick-Up. Gets
**MORE PRODUCTION,
FASTER SPEEDS**
with PuseyJones Machine*

Production increases of 15% to 20%! Speeds approaching 1600 f.p.m.! These are the profit-building benefits now being achieved by Fraser Paper, Ltd., with a new Vacuum Pick-Up installed on their most recent PuseyJones Machine.

What's more, production and speeds are so satisfactory that Vacuum Pick-Ups will soon be installed by PuseyJones on Fraser's No. 1 Bond and No. 5 Catalog Machines.

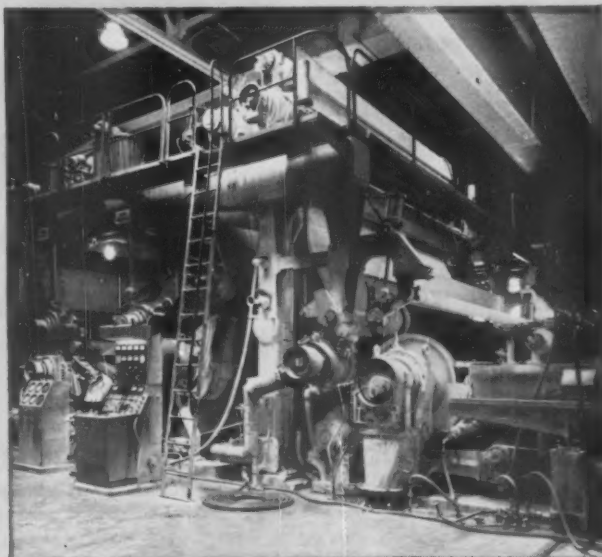
Does your production need a "pick-up"? Then talk it over with PuseyJones Engineers. Call or write us today.

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SIMPLIFIED PICK-UP ARRANGEMENT

Built in late 1954, this 196" PuseyJones Fourdrinier replaced a 26-year-old Machine, also by PuseyJones. As the No. 4 Machine at Fraser Paper, Ltd., Madawaska, Maine, it was designed and constructed to operate at speeds up to 2,000 f.p.m., and space was provided for later addition of a PuseyJones Vacuum Pick-Up, as shown above. Machine manufactures waxing papers and similar grades.



HUBER COATING CLAYS



save you

POWER

...however you process them

Thanks to Huber's patented VISCONTROL® process, the working properties of all Huber coating clays are superior.

You can "make down" these dependable clays with lower power input than other clays demand. Or—you can process them at considerably higher solids content with the same power input.

These facts have been proved, using the Hagan High Shear Viscometer and particularly in actual plant operation.

Preparing large volumes of highly concentrated clay suspensions is a trend today. This makes the

free-flowing properties at relatively high rates of shear—exhibited by *all* Huber coating clays—more important than ever.

Huber VISCONTROL—exclusive to Huber clays—makes possible the economical preparation of concentrated clay suspensions. Huber's continuing research program is designed to make life a little easier for you by adding the findings of modern science to the ancient and exacting art of papermaking.

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Headquarters for Clay Technology • Developers of Viscontrol® • Authors of "Kaolin Clays and Their Industrial Uses" • Producers of a Complete Range of Clays for Modern Papermaking

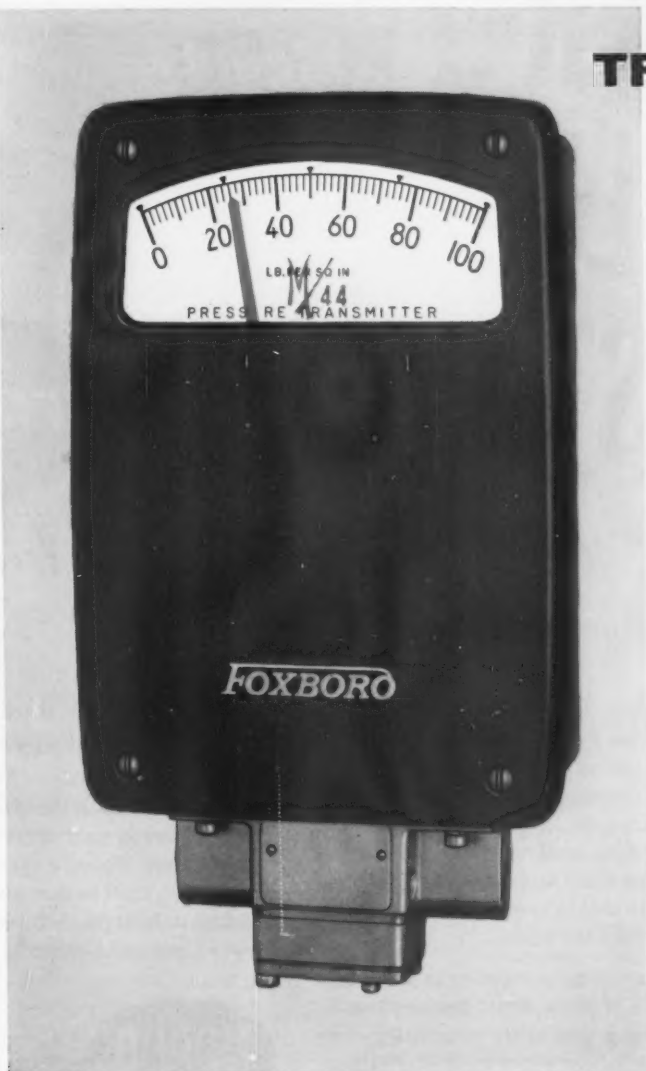
MINES AND PLANTS: HUBER, GA., LANGLEY AND GRANITEVILLE, S. C.



read pressure up to 20 ft. away!



on the **FOXBORO** **M/44 INDICATING** **PRESSURE** **TRANSMITTER**



You can check pressure readings at a glance on the Foxboro Pneumatic Indicating Pressure Transmitter. Its open-face, horizontal, 4-inch indicator scale and eye-catching red pointer are clearly visible as far away as 20 feet.

But high readability is just part of the story. Actually, this instrument was engineered from the ground up. Makeshift arrangements have been eliminated, hung-on gauges are gone. Everything is included in one, neat, ready-to-install package.

Because the indicating pointer is direct-connected to element and transmitter, calibration is easy . . . and you can re-zero the transmitter externally. All M/44 components are standard, performance-proved Foxboro parts. This makes it easier to stock and service.

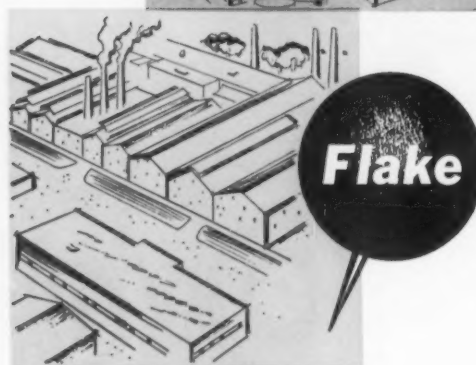
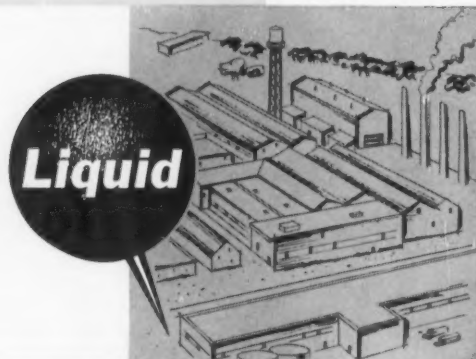
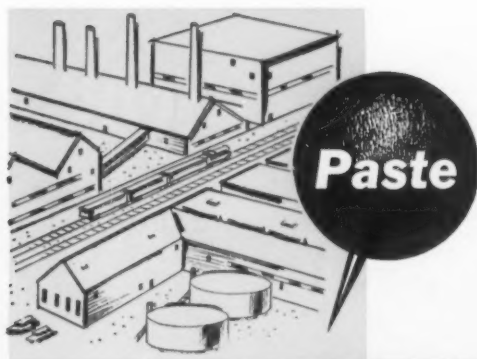
From its compact, drawn-steel case to its tough, polyester plastic cover the M/44 is the high-efficiency, low-cost pressure transmitter for centralized control and operation. All standard ranges.

Write for complete details. The Foxboro Company, 9910 Neponset Ave., Foxboro, Mass.

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INSTRUMENTATION FOR INDUSTRY

NOPCO HAS THE DEFOAMER THAT WILL GIVE BEST RESULTS FOR EACH MILL



Nopco, the first to make a chemical defoamer for the pulp and paper industries, has an unrivalled wealth of first-hand experience, and the widest range of defoamers...paste, liquid, and flake. One thing we know for sure—there's no such thing as a defoamer that works equally well in *every* mill. Local conditions vary too much.

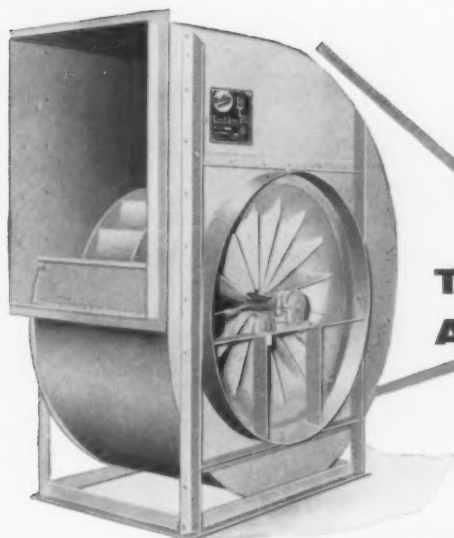
That's why we prefer to analyze a sample of white water from your mill. We test it with every potentially effective defoamer—including if you like, the one you are now using. When we have finished our exhaustive tests, we are able to determine scientifically and impartially, which defoamer will give your mill the even fiber distribution,

fewer breaks, higher machine speeds, and improved sheet formation that you should have.

What you want is the absolute minimum of foam in your operation. If you haven't given Nopco a chance to "prescribe", you can't be sure you have that absolute minimum. Why not consult Nopco Chemical Company, today?



PLANTS: Harrison, N. J.
Cedartown, Ga. • Richmond, Calif.
London, Canada



Buffalo Type BL
Limit-Load[®] Fan

THE "INSTALL-IT AND-FORGET-IT-FAN"

FOR INDUSTRIAL AIR-MOVING

With the "Buffalo" Type "BL" Fan, you're assured of dependable, economical, long lasting air-moving service for **your** particular air conditioning, ventilating or other industrial application. Here's why:

LONG, TROUBLE-FREE LIFE: because "Buffalo" gives you heavy gauge construction, rigid bracing, oversize self-aligning bearings, and a wheel which is die stamped, riveted and welded.

FULL RATED DELIVERY ON THE JOB: is insured by the proven backward-curved blade wheel, die-formed fixed inlet vanes, and wheel-suited housing.



... that is, forget your "Buffalo" Type "BL" Fan as far as any day-to-day attention is concerned. It'll do its superb job, month-after-month, year-after-year, with no servicing other than routine maintenance. You can rely on the famous "Buffalo" "Q" Factor — the built-in Quality which provides trouble-free satisfaction and long life.

QUIET OPERATION: made possible by complete streamlining from inlet to outlet plus precision balance of the wheel.

EASY INSTALLATION: on sturdy base, due to ample inlet and outlet collars. Larger sizes have split housings for convenient handling during installations.

Every "Buffalo" Fan is test-run before it leaves our shop. This assures you of peak efficiency... smooth, quiet operation... and a long life of completely reliable service. Want Full Details on "Buffalo" Type "BL" Fans? Just write us, now, for Bulletin F-102.



BUFFALO FORGE COMPANY
BUFFALO, N. Y.

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

VENTILATING AIR CLEANING AIR TEMPERING INDUCED DRAFT EXHAUSTING FORCED DRAFT COOLING HEATING PRESSURE BLOWING

Latest Mill Results	SEPARAN 2610 lb. / ton	CLAY lb. / ton	TiO ₂ lb. / ton	ASH %	OPACITY %	NET SAVINGS \$ / ton WITH SEPARAN 2610
55 lb. ENVELOPE	NONE	530	0	7.3	88.0	4.50
	0.5	310	0	10.3	90.2	
60 lb. OFFSET BOND	NONE	550	30	12.2	92.0	2.00
	0.5	400	30	13.7	92.0	
25 lb. MACHINE COATED CARTON WRAP	NONE	50	150	12.2	77.0	5.50
	0.75	50	125	13.2	76.0	
50 lb. OFFSET BOND	NONE	370	145	9.6	89.0	12.00
	0.6	145	100	12.6	90.5	

Separan 2610 saves \$2.00 to \$12.00 per ton of paper

Tabulated above are mill results obtained on various papers with Separan 2610 as a filler retention aid. These savings tell only part of the story . . .

A synthetic flocculant of constant uniformity, Separan 2610® is proving the answer to many problems in pulp and paper manufacture. It is truly a revolutionary flocculant—easy to prepare and apply—requiring no preservative. It's effective over a wide pH and temperature range, is non-corrosive, and presents no hazard in normal use.

For your further evaluation of Separan 2610, a more complete and expanded report has been prepared titled "Separan 2610 in the Pulp and Paper Industry". In addition to

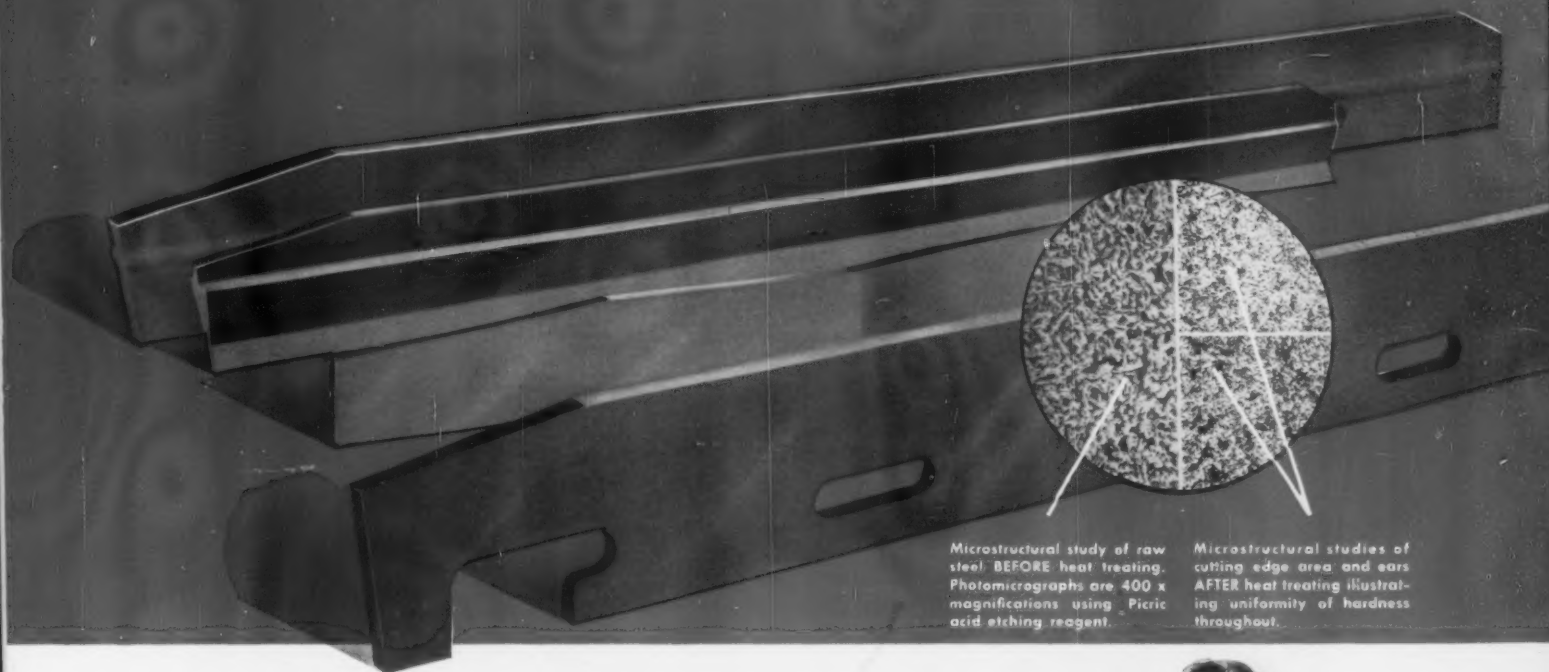
filler retention, it reports on how this new Dow flocculant is saving money and improving other mill operations . . . in flotation type save-alls, white liquor or bleach liquor clarification, white water clarification and raw process water treatment. For your copy of this booklet, and/or a sample of Separan 2610, write THE DOW CHEMICAL COMPANY, TECHNICAL SERVICE AND DEVELOPMENT, Midland, Michigan, Dept. 3C 1317D-2.



YOU CAN DEPEND ON

DOW

WHY *Microlyzed** JORDAN FILLINGS ARE NOTED FOR ENDURANCE



Microstructural study of raw steel BEFORE heat treating. Photomicrographs are 400 x magnifications using Picric acid etching reagent.

Microstructural studies of cutting edge area and ears AFTER heat treating illustrating uniformity of hardness throughout.

Regardless of the stock, consistency or pressure, MICROLYZED Fillings by BOLTON lead in providing what papermakers want most in Jordan Fillings . . .

LONG WEAR because they are custom-processed from specified Jordan steel to a precise balance of hardness and toughness.

EVEN WEAR OF PLUG AND SHELL KNIVES because of guaranteed uniformity of hardness in each set of fillings and throughout each knife in the set.

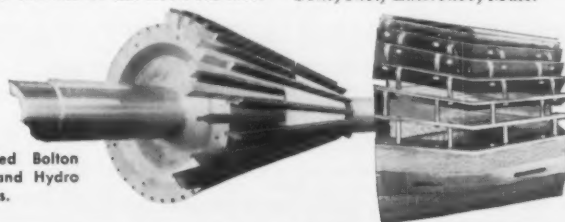
In the manufacture of Jordan Fillings, Bolton controls the entire process. Starting in the laboratory, a photomicrostructural analysis is made of each shipment of Jordan steel. Destructive mechanical properties tests are made, which must fall within the rigid tolerance standards established. During production, non-destructive tests assure the desired properties previously determined are achieved during heat treatment.

Furnace temperatures are controlled to within tolerances of 5 degrees. Hardening is done in a BOLTON-designed quench in which each knife is clamped to maintain straightness. This exclusive method eliminates the need for later

straightening. Papermakers receive the benefits of a stress-free product.

Knowing that performance is a reflection of the materials used and the degree of skill and care shown in fabrication, no compromise is permitted at BOLTON.

Fifty two years of specialized Jordan Fillings experience is built in to every knife. So is the craftsmen's attitude — an attitude of conviction that none will deliver longer, more economical, day in day out resistance to wear than BOLTON MICROLYZED FILLINGS . . . RING TYPE — WEDGELESS — HYDRO-TRUSS. All are made by John W. Bolton & Sons, Inc., Lawrence, Mass.



Partially assembled Bolton Wedgeless Plug and Hydro Truss Shell Fillings.



Filling the Needs of Papermakers: JORDANS • CLAFLINS • FILLINGS • PLUGS
• STAINLESS PLUG JACKETS • BEATER BARS AND BED PLATES • SHOWER PIPES
• SUCTION BOX COVERS • MAGNETIC EQUIPMENT • MACHINE KNIVES.

* REG. T.M. APP. FOR.

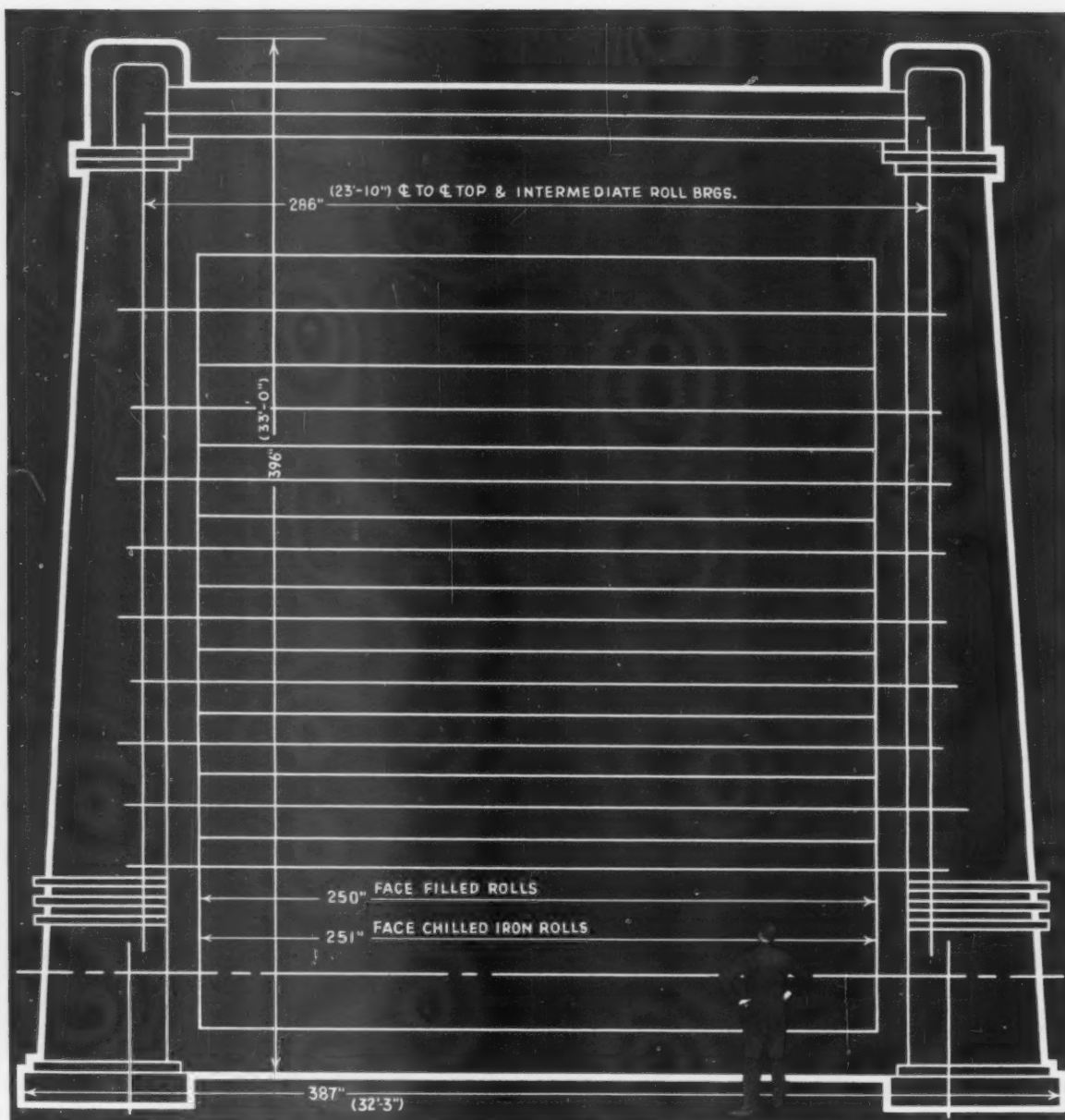


The Papermaker suggests:

Write today for Bulletin No. F-556 on Bolton Microlyzed Fillings. It has full information on:

- Wedgeless Plug Fillings
- Hydro-Truss Shell Fillings
- Ring Type Fillings
- Special Heat-Treated Steel
- Bolton Stainless Steel
- Bolton Phosphor Bronze and other alloys
- Fillings Separator Materials
- Knife Sizes
- Stainless Steel Plug Jackets
- Technical Advisory Service
- Instruction Charts on Changing Fillings

IN CANADA: Pulp and Paper Mill Accessories, Ltd.
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OVERSEAS: United States Machinery Co., Inc.
90 Broad Street, New York 4, N. Y.
Manuel Del Castillo
IN MEXICO: I. La Catolica 45 Desp. 711-712
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**CROWN-ZELLERBACH SELECTS THE APPLETON
MACHINE COMPANY TO BUILD THE LARGEST
SUPERCALENDERS IN THE UNITED STATES!**

Recently, Crown-Zellerbach asked Appleton to build two giant 250-inch, 10-roll supercalenders. These supercalenders—the largest ever built in the United States—will be installed in the new St. Francisville (Louisiana) Paper Company plant which C-Z is constructing and owns jointly with Time, Inc.

Difficult specifications to meet . . . but Appleton's ability to build the tough ones is a proven fact. In the past 10 years, Appleton has built over 70% of all the supercalenders made or sold in the United States and Canada.

knowing and filling the needs of the paper industry
APPLETON MACHINE COMPANY
Appleton, Wisconsin





COLORFUL HOUSEHOLD PAPERS

The lady of the house lives in a colorful world. Her clothes, automobile, home furnishings and almost everything she uses have been made more attractive by the modern use of color. To complement these cheerful surroundings, she buys colored facial and bathroom tissues, paper towels and napkins in ever-increasing quantities.

To help you meet this demand, GDC offers below a specially selected range of direct dyes for creating tinted, medium or full shades of color in household papers. These dyes have the advantages of excellent affinity for use without size or alum and compatibility with wet-strength additives.

have you tried ■ **YELLOW:** Stilbene Yellow 5GXA, Fastusol Yellow GAP Extra, Fastusol Yellow LRRR Conc. CF, Fastusol Yellow RA Extra, Chrysophenine YP ■ **PEACH AND FLESH:** Benzo Fast Orange WSA-CF, Direct Fast Orange MR Conc. CF ■ **PINK:** Benzo Fast Scarlet 4BSA-CF, Benzo Fast Scarlet 4BGP-CF, Benzo Fast Scarlet 8BSA Conc. CF ■ **ORCHID:** Brilliant Benzo Violet BA-CF, Fastusol Violet BBA-CF ■ **BLUE:** Brilliant Benzo Blue 6BA Extra Conc. CF, Benzo Sky Blue ASP, Benzo Azurine GA Extra CF, Benzo New Blue 5B-CF ■ **GREEN:** Benzo Green CA-CF, Fastusol Green BA-CF.

Our Technical Service Department is ready to help you at any time on all your paper-coloring problems. Please write or call on our office nearest to you.

From Research to Reality



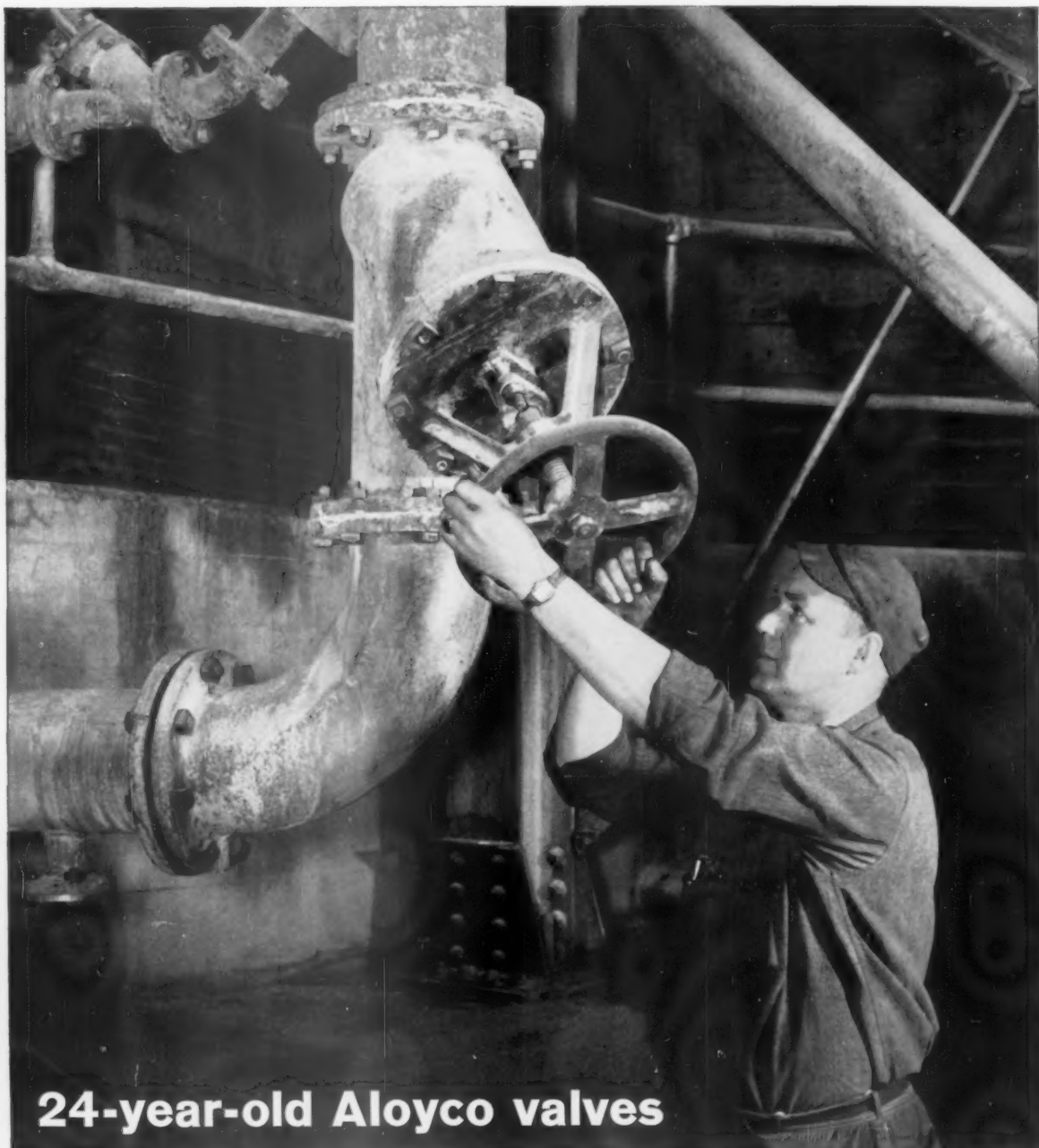
GENERAL DYESTUFF COMPANY

A SALES DIVISION OF

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435 HUDSON STREET • NEW YORK 14, NEW YORK

BOSTON • CHARLOTTE • CHATTANOOGA • CHICAGO • LOS ANGELES • NEW YORK • PHILADELPHIA • PORTLAND, ORE. • PROVIDENCE • SAN FRANCISCO IN CANADA: CHEMICAL DEVELOPMENTS OF CANADA, LTD., MONTREAL



24-year-old Aloyco valves

still handling hot acids in Maine pulp mill

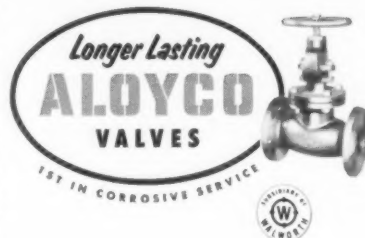
This Aloyco Stainless Steel "Y" Valve is one of many in use at the Eastern Corporation mill at South Brewer, Maine.

According to Chief Engineer, F. H. Stetson, "The valves were purchased and installed in 1933 in conjunction with our hot acid system... have been in continuous use since that time."

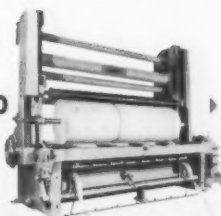
With this kind of money-saving service, you can see why more and more pulp mills are turning to Aloyco Stainless

Steel Valves. To produce a broad line of trouble-free valves in stainless steel calls for long experience in design, engineering and foundry techniques. It also calls for the most modern equipment. Leadership in these vital areas has made Aloyco the world's largest specialist in the manufacture of Stainless Steel Valves. Call us in on your next valve job. Alloy Steel Products, 1316 West Elizabeth Ave., Linden, N. J. 7.10

ALLOY STEEL PRODUCTS CO., LINDEN, NEW JERSEY



460



430



protects your profits

Cameron specialists welcome any opportunity to show the way to low cost, high speed production of better rails of any material. Your inquiry will receive prompt and specialized attention.

CAMERON 440

SLITTER-WINDER-REWINDER
for paper machine or finishing room

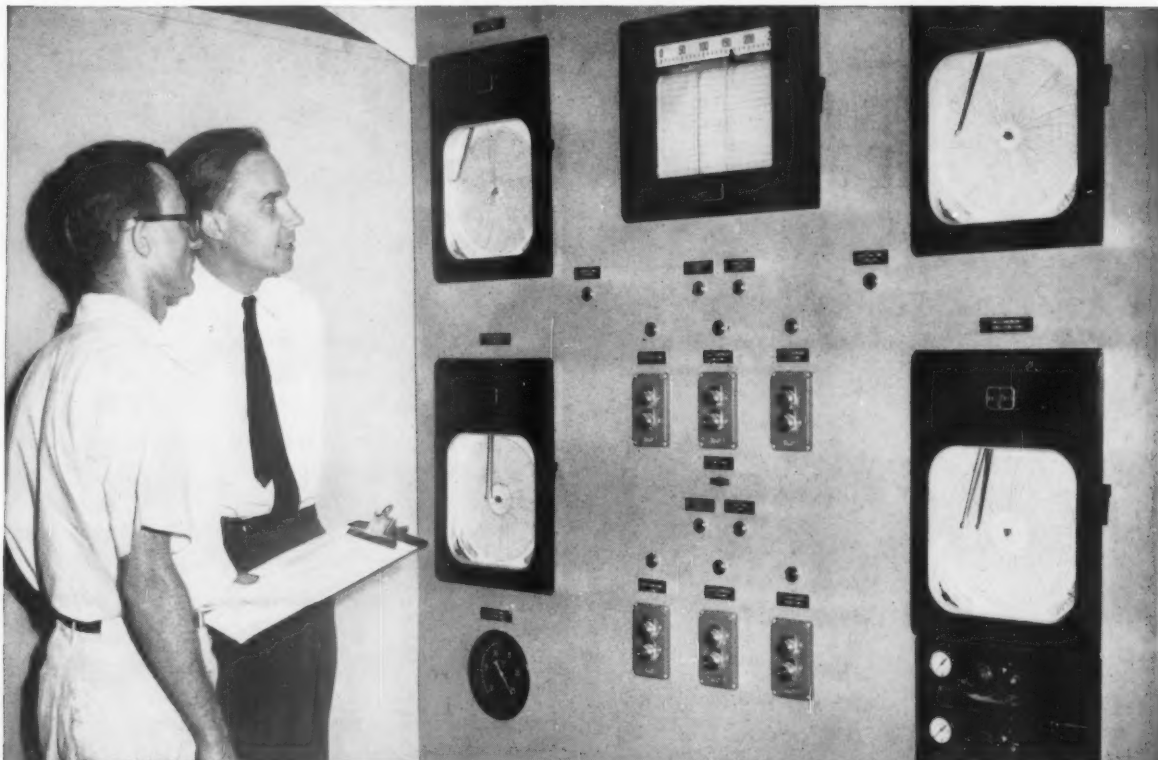
The new Cameron 440 employs exclusive design principles and operating features job-proved in actual service on the larger and heavier Cameron mill-type winders. Produced by Cameron's team of specialists, the 440 assures high productivity with dependable, trouble-free performance; finished rolls that meet the highest standards of quality; economy and efficiency of operation unmatched in its class. The 440 provides a choice of pneumatic score-cut or shear-cut slitting. Speeds up to 5000 fpm*. Widths to suit requirements. Maximum rewind diameter 60" (larger at additional charge). Write or telephone for complete details.

*Speed depends on width, number of cuts, and characteristics of material.

BUILT BY CAMERON'S **team of specialists**

50 years devoted exclusively to the design and manufacture of slitting and roll winding equipment.

WHAT'S NEWS AT BRISTOL...



BRISTOL RECORDING THERMOMETERS on the job in new processing plant.

Can you pass this recording thermometer quiz?

Question: Why do Bristol Recording Thermometers continue to lead the field?

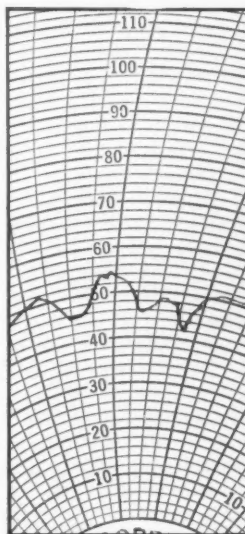
Answer: Because of Bristol's continuous research and development program. Two outstanding results of this program are:

1. The 2L Uniform-Scale Vapor Pressure Thermometer which gives you all the advantages of vapor pressure thermometer actuation without the problems of the conventional non-linear increasing scale—*greatest advance in recording thermometers in 25 years.*

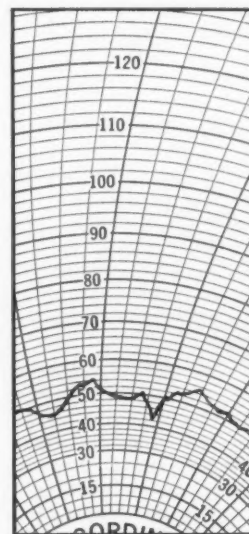
2. A basic improvement that eliminates ambient temperature effects. Whether you are measuring *above, below* or *at* ambient temperature, you get the same unvarying accuracy with the new Bristol Vapor-Pressure Recording Thermometers.

Want to know more? Write today for free 48-page bulletin T840 on the complete line of Bristol Recording Thermometers, liquid, vapor-pressure, and gas filled for every application. It tells all about typical installations, ranges, charts, bulbs, tubing. The Bristol Company, 142 Bristol Road, Waterbury 20, Conn.

6.82



NEW LINEAR CHART for 2L.
Note easy readability due to equal chart increments.



OLD NON-LINEAR CHART.
Note how scale values crowd together at bottom.

BRISTOL

TRAIL-BLAZERS

IN PROCESS AUTOMATION

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

TRADE MARK
BRISTOL'S
REG. U.S. PAT. OFFICE

Now you can use your **HARDWOODS** to make groundwood-type pulp

... and bleaching these pulps with Du Pont Peroxides can
give them brightness levels in the range of 70-75 G.E.

Recently several mills started commercial operation of a process to produce pulp by the defiberation of hardwood chips. This new method can also be used for the production of pulp from softwood chips and for the utilization of sawmill wastes.

Early in the development of this process advancement, Du Pont carried out extensive laboratory and field tests to determine the bleachability of these new pulps. It was found that most hardwood species can be bleached to a brightness range of 70-75 G.E. with the use of peroxide alone or a hypochlorite treatment followed by peroxide bleaching. As would be expected, bleaching

with peroxide produced a pulp with high color stability.

We invite you to use Du Pont's bleaching experience with these new groundwood-type pulps. Just contact our nearest technical representative and he will be glad to assist you. He can arrange for a thorough bleaching evaluation of your pulp in our laboratory or in your plant.

NEW YORK & BOSTON AREA	Call C. R. Lombard New York, LOngacre 3-6440
MIDWEST AREA	Call P. E. Kiefer Chicago, INdependence 3-7250
WEST COAST AREA	Call L. W. Blight Portland, OApitol 7-1281
SOUTHERN AREA	Call Charlotte, FRanklin 5-5561

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... THROUGH CHEMISTRY

ELECTROCHEMICALS DEPARTMENT
Peroxide Division

E. I. DU PONT DE NEMOURS & CO. (INC.)
Wilmington 98, Delaware

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for

A circular logo with a double-lined border. The text "R.T. VANDERBILT COMPANY" is curved along the top inner edge, and "AMERICAN PRODUCTS" is curved along the bottom inner edge. In the center, the words "BILT-COTE" are printed in a bold, sans-serif font.

What the Panel Says . . .

- ✓ Plans must be made well in advance . . .
- ✓ Keep your activities on ethical plane . .
- ✓ Give students a clear knowledge of jobs . .
- ✓ Make a study of universities and colleges . .
- ✓ Pick the right man to be your recruiter . .
- ✓ Find out from schools what others are doing . .

PULP & PAPER Presents Panel of Experts on College Recruiting

In recent years college recruiting of engineers, chemists, salesmen and other personnel has grown by leaps and bounds. Some companies have worked out excellent programs; others would like to but don't know how to go about it. PULP & PAPER asked placement directors from ten universities throughout the country to advise its readers on how to operate a college recruiting program.

PULP & PAPER is proud to present its panel on a subject that is vital to the industry:

FRED W. AJAX

Placement Director, Georgia
Institute of Technology

FRANK S. ENDICOTT

Director of Placement, North-
western University

PHILIP J. BROCKWAY

Placement Director, Univer-
sity of Maine

W. R. HORSLEY

Director, Placement Office,
Agricultural and Mechanical,
College of Texas

F. LYNN CASON

Director, Placement Service
for Men, Purdue University

GEORGE N. P. LEETCH

Director, University Place-
ment Service, The Pennsyl-
vania State University

Mrs. PAULINE V. CHAPMAN

Engineering Placement, Uni-
versity of Illinois

MISS EMILY CHERVENIK

Coordinator of Placement,
The University of Wisconsin

J. A. MARKS

Engineering Placement Direc-
tor, University of Wisconsin

CARL DICKINSON

Placement Director, Univer-
sity of Washington

JOHN L. MUNSCHAUER

Director, Placement Service,
Cornell University

● "Recruiting of college students to-day is big business," says Philip J. Brockway, placement director at the University of Maine, Orono, Me. "Thousands of dollars and hundreds of man hours are expended each school year to interest, interview and select company employees who will, it is hoped, become the management potential of the firms employing them."

"Companies new to college recruiting are likely to find it a bewildering and possibly disappointing endeavor. Nevertheless, the rewards in manpower resources are so great that any organization building for tomorrow's needs can scarcely afford to remain on the sidelines in this game. Even with the intense competition which marks college recruiting today, there is still no other single source of supply having such a great potential for the employer as the graduating classes of our colleges and universities."

The recruiter also performs an important function in educating the student. Miss Emily Chervenik, coordinator of placement at the University of Wisconsin, Madison, Wis., says, "From the placement officer's viewpoint the recruiter is in a sense another faculty member. He is educating

COLLEGE RECRUITING

the student in the complexities of industrial organization. Representatives from your industry expose the applicant to the special features of pulp and paper making, to the manifold uses of the product and to marketing the product. The recruiter is also advertising, though not overtly, the company's product or services."

Plan Ahead . . .

If there's one thing all panel members agree on, it's the necessity of making plans well in advance. Frank S. Endicott, director of placement at Northwestern University, Evanston, Ill., and president of the Midwest College Placement Assn., advises, "Determine as early as possible what the needs will be for the coming year. On many campuses the limited number of interviewing facilities are completely scheduled by early October. By early May the graduating seniors have had interviews and offers and, in most cases, have accepted jobs. This is especially true in technical fields where demand so greatly exceeds supply. Each year companies call us in May to help them employ June graduates. We have to tell them they got their idea about eight months too late."

Mrs. Pauline V. Chapman of the Engineering Placement Office at the University of Illinois, Urbana, Ill., adds, "Secure as early an interview date as possible. Students are always eager for the first interviews and while on an early date there will be some 'shoppers,' at least the story will be told. Later in the season the students become more selective and a company coming to the campus at a later date will find the schedule much less satisfactory."

Follow the Rules . . .

Several panel members expressed admiration for the pulp, paper and paperboard industry's high ethical practices in recruiting, so it may be superfluous to mention this point. However, it is important and pays off in the long run, they said.

Placement directors and recruiting companies are now establishing certain principles to govern acceptable recruiting practices. F. Lynn Cason, director of Placement Service for Men, Purdue University, Lafayette, Ind., was chairman of a committee which drew up a code of procedures for the Midwest College Placement Assn. This code has been adopted by the



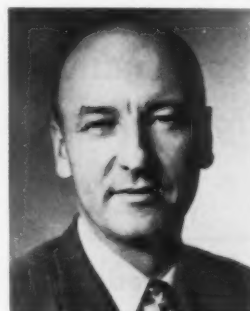
AJAX: "Reevaluate Your Industry's Needs. ."



BROCKWAY: "The rewards are great. ."



CASON: "The Code Represents My Views. ."



HORSLEY: "Make It Clear for Him. ."



CHAPMAN: "Students Become Selective. ."



MARKS: "Small Mills Should Use Ads. ."

American Society for Engineering Education, the Manufacturing Chemists Assn., and is in the process of being adopted nationally. Copies of the code, entitled "Recruiting Practices and Procedures," may be obtained from W. Leighton Collins, secretary, American Society of Engineering Education, University of Illinois, Urbana, Ill. The cost is 25¢ for a single copy or five for \$1.00.

"The code represents my views precisely as they have been formulated by 15 years as a college placement officer," said Mr. Cason.

Be Ethical

"Employer Responsibilities" are listed along with "College Responsibilities" and "Student Responsibilities." The former are reproduced elsewhere with this article. In a foreword, the authors say the booklet was prepared, among other reasons, because "certain employers have developed procedures with students which do not appear proper to other employers, particularly to those who have been visiting colleges for 25 or even 50 years . . ."

Analyze Your Requirements . . .

Do you really need a college graduate? George N. P. Leetch, director of the Pennsylvania State University Placement Service, University Park, Pa., says, "The industry should do a real job of analyzing the work that requires a college education. College graduates should be given, and trained to use, skilled personnel to do the non-professional and non-administrative daily tasks. Jobs must be both challenging and stimulating if they are to attract and hold the most capable people." If that's not the kind of a job you're trying to fill, chances are you don't need a college graduate.

What kind of graduates do you need? Mr. Brockway points out that "nothing is more frustrating for a placement director than to have Mr. John Doe of the ABC Co. arrive at the placement office and cheerfully ask to see six foresters and five accounting majors in addition to the chemists and engineers previously requested. Even if the harassed director does manage to round up a few stray specimens, they are less likely to be of as high quality as they would have



ENDICOTT: "Pay Isn't Most Important."



MUNSCHAUER: "Send Young Executive Type."



LEETCH: "Job Must Be Challenging."



DICKINSON: "Don't Alienate Average Student."



CHERVENIK: "Don't Use Shock Approach."

been if notice had been given well in advance. Even more important; an impression of inefficiency is made on the placement director, faculty members and students."

Be Specific . . .

Miss Chervenik advises, "Where technical training is required, be specific as to the minimum necessary. For example, for production trainee jobs some companies will consider only engineering graduates. Others will take any man who has had some technical training or work or military experience which indicates mechanical aptitude."

Fred W. Ajax, placement director at the Georgia Institute of Technology, Atlanta, Ga., feels that the pulp, paper and paperboard industry could re-evaluate its needs for chemists and chemical engineers.

When Recruiting Backfires . . .

Aside from the particular type of training desired, Carl Dickinson, placement director at the University of Washington, Seattle, Wash., deplores the tendency of many re-

cruiters to proselyte the outstanding campus leader and ignore the average graduate. He asks, "Can industry afford to alienate by neglect the average students who make up the great majority of college graduates?"

"We have had instances in which reasonably good candidates have refused to consider local opportunities with certain firms because of negative feelings engendered by their experiences with national or regional recruiters." He suggests that wherever possible the home office recruiter coordinate his visit with local offices or plants and give more stress to local opportunities.

"A good number of the students at the University of Washington are interested in remaining in the Pacific Coast area and would welcome information about job openings in this region. Because the pulp, paper and paperboard industry is one of the more important industries in our area, I believe the above approach would be especially rewarding here," he says. "Our students always show a special interest in industries such as pulp, paper and paperboard because they

offer more stable and permanent possibilities for long-range career planning than many other industries."

J. A. Marks, engineering placement director at the University of Wisconsin, suggests that smaller mills with limited needs for technical men may be better off to avoid organized college recruiting and use the normal sources of newspaper ads, agencies, etc. In addition most college placement offices maintain a placement service for alumni who wish to relocate. These sources may be better for small mills which have only a few openings.

Publicize the Industry . . .

"There is no doubt that the pulp, paper and paperboard industry could do more to inform graduating seniors of the opportunities it offers," says Mr. Marks. "Almost all industries that are not in direct consumer sales face the problem of acquainting students with their operations. Students just aren't aware of the opportunities. Even at the University of Wisconsin where many students come from paper mill towns, the common reaction is, 'Why does an outfit like that need engineers?'"

Terminology Confuses Students

W. R. Horsley, director of the Placement Office at Agricultural and Mechanical College of Texas, College Station, Tex., says, "Most graduating seniors today are confused, not by the question, 'Where can I find a job?' as in the depression years, but by wondering which job to take. The various professions have been broken down into increasingly complex subdivisions and specialties which add to the confusion. Then, too, such terms as production, development, research, manufacturing, while common to all industry, may have entirely different meaning and application in one industry as compared to another." It's up to the company to explain to the student where and how he can fit into the picture.

Mr. Endicott adds, "A company should have a carefully thought-out promotion program to give the new graduate a clear understanding of what job experience he will need, what he is expected to learn from these experiences and how he can best be introduced to the company and its products or services."

Show Them Mill Practice . . .

A concentrated effort, either by individual pulp, paper and paperboard mills or by an industry-wide group is necessary, according to Mr. Marks. "A general interest film, for example,

Survey of Starting Salaries

for 352 U. of Illinois Engineers . . .
June 1957 . . . B. S. Degrees

Type of Engineer (degree)	Total Graduates	Average	High	Low	*No. Employed
All Engineers	352	481.33	675.00	320.00	66.20% 233
Aeronautical	24	503.50	563.00	377.00	18
Agricultural	4				~
Ceramic	8	468.75	500.00	425.00	4
Civil	50	456.78	630.00	320.00	28
Electrical	108	490.60	675.00	350.00	82
Engineering Physics	19	463.66	500.00	390.00	6
General	14	464.55	500.00	373.00	9
Industrial	23	466.21	531.00	440.00	14
Mechanical	80	481.17	625.00	440.00	59
Metallurgical	16	482.90	545.00	450.00	10
Mining	4	505.00	550.00	460.00	2
Sanitary	2	491.00	491.00	491.00	1

All salaries based on 40 hour work week.

*Others not employed included 22 who joined armed services, 56 who went on to graduate school, 15 undecided, 9 foreign students who returned home, 7 who went in family business, 6 in absentia. No report on four.

would be most helpful. Students are deluged with company literature but a well-written brochure distributed to both staff and students pays long-term dividends. Invitations to visit mills are obviously valuable.

"Opportunities for summer employment for both staff and students is probably one of the best methods of insuring successful recruiting. Students grasp at any opportunity to see how their studies are applied in actual practice." One note of caution is, "Any attempt to dilute the work or provide 'busy' work will backfire and quickly disillusion the students. And back on the campus, word-of-mouth advertising can ruin an otherwise fine program."

Maintain Close Contacts . . .

Whatever promotional methods you use, it is wise to develop and maintain close relations with individual colleges. Mr. Leetch says, "The number of schools visited should depend upon the number of new graduates needed. Don't approach 50 schools when you are looking for a dozen men—close relations will not develop where you make no employment offer. Do go to enough institutions to get a variety of training and a cross fertilization of ideas among the new employees."

"Visiting a campus regularly is an important way to get the name of the company known," remarks Mrs. Chapman.

Another important reason for getting well acquainted is pointed out by

Mr. Brockway. "No sensible purchasing agent for a company would attempt to purchase specialized equipment without becoming familiar with the sources of supply. An employer should have a thorough knowledge of the colleges and universities from which he hopes to get the manpower he needs. This knowledge should include an understanding of the courses of study offered. It is no more absurd to try to buy stainless steel pipe from

a lumber dealer than to try to hire a mechanical engineer from a liberal arts college, yet placement directors are embarrassed every year with inquiries as unrealistic as that one."

Know Your Competition . . .

"Most studies indicate that pay is not the major factor in the minds of graduates," Mr. Edicott observes. "However, pay is important and you can't be far below the average and attract the better people."

Mr. Brockway adds, "An employer should also know what other companies are offering in fringe benefits, competitive training plans and the many other factors which determine job choice. Placement directors are glad to provide this information."

Get a Good Man as Recruiter .

The panel members agree unanimously that the personality and skill of the recruiter is of vital importance. John L. Munschauer, placement director, Cornell University, warns against sending a representative who has had no training in interviewing and is poorly briefed on company needs. "A recruiter should have had many conferences with department heads and other supervisors who have submitted employee requisitions. These conferences cannot be brief or superficial," he says. "In a large company, this may mean months of training for the recruiter so that he becomes thoroughly familiar with each phase of a company's operation. 'Incidentally,' he adds, 'this type of training offers an unusual opportunity for a

Salary is NOT the Big Thing . . .

This chart shows reasons Illinois Engineering students gave for first, second and third choice jobs . . .
More first choices were made because of location, type of work and opportunity, than for pay . . .

Reasons for choice	Choice			Reasons for choice	Choice		
	1st	2nd	3rd		1st	2nd	3rd
1. Location	73	55	9	15. Company policies	1	1	
2. Type of work	120	24	8	16. Professional development	1		
3. Opportunity	45	21	7	17. Company organization	1		
4. Salary	19	38	13	18. Military Service experience in the field	1		
5. Worked summers for company	12	3	2	19. Fringe Benefits	1	1	
6. Opportunity for graduate work	19	4		20. Variety of work	1		
7. Company reputation	5	4	4	21. Company personnel		3	
8. Type of industry	5	1		22. Individual responsibility		2	
9. Company product	3			23. Father works for company		3	
10. Security	2	7		24. Company attitude		1	
11. Training program	2	3		25. Work combined his 2 degrees		1	
12. Size of company	2	2		26. Growing company			1
13. Service deferment	2	2					
14. Personal contacts	2						

junior executive to meet people and gain a good insight into over-all company operations. One large firm uses this job as a step in the development of young executives. This is doubly smart for the 'young executive' type is the kind of person most apt to be successful in college recruiting."

Miss Chervenik says that almost invariably the first comment students make after an interview refers to the personality of the recruiter. "One put it this way, 'Is this the kind of a guy I'd like to ask to my house for dinner?'" She advises against using the "shock" approach, to see how the student reacts to frustration, or indulging in the "jolly fellow" attitude if it isn't sincere.

"In the minds of the students, the recruiter is Mr. Company," says Mr. Brockway. "A recruiter who has sincerity, a broad knowledge of his company, a genuine interest in students as potential employees, and that rare and golden ability to sense the right person for both the immediate and potential jobs available will, more than any other single factor, make for recruiting success. With a real good man on the job, almost any other mistakes can be corrected; without that, no amount of planning, knowledge, effort or expense will accomplish anything worthwhile."

Follow-up is Important . . .

"The best efforts of a highly trained, well-qualified recruiter can be wasted by poor follow-up," Mr. Munschauer points out. "It is almost universal to invite candidates to visit the plant or company offices for further interviews before making offers. A student who is missing classes and has traveled a great distance for such a visit won't be impressed by a company that wastes his day having him stand around waiting to see 'busy executives.'"

Keep Him Once You Have Him

Several panel members offered suggestions on making the most of new employees once they've been hired. Mr. Endicott stresses the importance of remembering that these young men learn fast and are anxious to progress. "They should not be kept at any routine job longer than it takes them to learn most of what the job can teach them. It is unwise and wasteful to keep them on a job which doesn't utilize their abilities. They need to be given responsibility as fast as they can take it. They need to know how they are progressing. This requires close personal contact with each individual."

Mr. Horsley thinks most beginners go through a predictable—and to some

extent preventable—state of frustration. "This occurs between six months and two years after starting in a job and is accompanied by such symptoms as thinking, 'They lied to me when they hired me,' 'I'm a forgotten man,' and 'Probably this is the wrong racket for me anyway.' Almost always the man is about to be fired or promoted at about the time this ailment hits him. The situation calls for counseling on the part of his supervisor. Such counseling, along with encouragement to broaden his outlook by advanced study, participation in civic and professional activities, should help reduce

COLLEGE RECRUITING

the turnover and make for a larger number of happily placed people."

Students Wary of "Wine and Dine" . . .

Mr. Endicott mentioned a recent graduate who is quietly looking for another job. "His pay is good and he likes his work. He has been there a year. His office is about 50 feet from that of the president of the firm, who



Students Sign Up For Interviews . . .

Placement office prepares bulletin which lists company names, location and types of available positions, types of engineers needed. By June of this year the schedules for this fall and next spring were almost filled. Students sign for interviews in sign-up books in the Placement Office.



Students Learn About Company in Advance . . .

Company literature is available for students who are urged to study it carefully, analyze their own interests and abilities as well as the company's requirements before signing for an interview.

All pictures with this article were taken at the University of Illinois

Employer Responsibilities—A Code

Recruiting Practices and Procedures, a booklet published by American Society for Engineering Education.

1. The employer should contact the Placement Office long in advance so that the college can plan to accommodate all employers who wish to interview. In his original request for an interview date, the employer should explain how he wishes to organize his interviews. Employers must keep in mind that only a limited number of corporations can interview on campus at a given time, and that the scheduling of interviews is difficult.

2. Within two weeks following the interview, the employer should communicate with the student concerning the outcome of the interview.

3. The employer should give the student ample time to consider his offer before requiring a final answer.

4. The employer should provide suitable literature to give students a true picture of the corporation. This material should be supplied to the Placement Office, or to the faculty if there is no Placement Office, in sufficient quantity and well in advance of the interview date. The interviewer should clearly explain to students what tests they will need to pass, and if there will be a physical examination. He should give students complete information concerning any special requirements such as the signing of patent agreements.

5. The employer should inform the Placement Office concerning the broad categories of employment available, and the college degrees and other requirements for each.

6. The employer should accept responsibility for permanent relation with the colleges. Hence he should conduct interviews year after year, or otherwise maintain contact with the colleges.

7. If the employer invites students to visit his plant or headquarters, he should arrange the visit to interfere as little as possible with class schedules. He should avoid elaborate entertainment and overselling and explain what expenses will be paid and how and when. (Many students borrow money to make these trips.)

8. The employer should send copies of all correspondence with students and faculty members to the Placement Office.

9. The interviewer should be punctual. He should tell the Placement Office when he will arrive, and he should arrive no later than the designated time.

10. No more than two and preferably only one interviewer representing an employer should appear for each interview schedule. Arrangements for more than two interviewers should be made well in advance, and only for reasons which are considered adequate by the Placement Office.

11. An employer who desires to contact a particular individual at the time of his interview visit should write that individual at least two weeks in advance, with a copy to the Placement Office.

12. The employer should not offer a student special payments,

gifts, bonuses, or other inducements, nor should he compensate or favor a third party to prevail upon the student to accept a particular employment offer.

13. After a student has declined a job offer, the employer should renew his proposal only through the Placement Office. The employer is thereby prevented from annoying students who have accepted employment elsewhere.

14. The employer should invariably engage every student who has accepted the company's offer.

15. If the employer's organization is unionized, or the department for which the student is to be engaged, is unionized, the employer should tell the student if he will or will not have to join a union. Furthermore, the employer should give the student complete and detailed information as to how the union will affect his status if employment is accepted.

16. When both a parent corporation and subsidiary or affiliated corporations conduct interviews in the same college, the respective interviewers should clearly explain their missions and their connections, both to the Placement Office and to the students. Interviewers should make clear where, and by which unit or division or subsidiary corporation, the students are to be engaged.

17. Interviewers should very carefully follow the interview schedule agreed upon with the Placement Office. They should not detain any student beyond the specified time.

18. The employer should not hurry a student into making a decision concerning employment. ●

buzzes for him occasionally but never stops at his desk, and calls him Jim when his name is George. Nobody has ever talked to him about how well he is doing or what lies ahead for him."

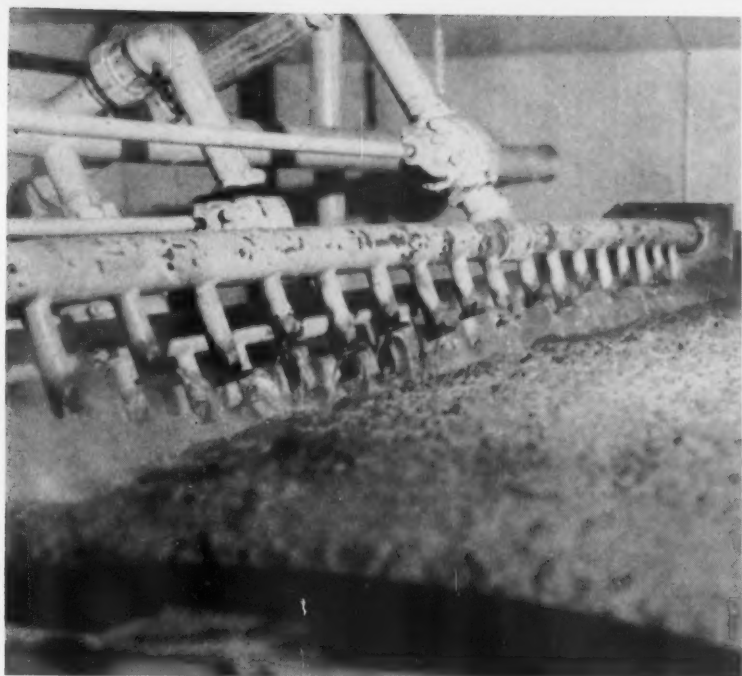
All the panel members show genuine and infectious enthusiasm for their work. Mr. Marks, speaking of the good sense students show in trying to make intelligent decisions in spite of enticing offers and "wine and dine" entertainment, says, "Discovering that this is the way students react has been a wonderfully refreshing ex-

perience. This is not to imply that anyone is stuffy about college recruit-

ing. It is very interesting, a lot of fun and most satisfying." ●

Company Visits at University of Illinois, College of Engineering

	Number of Companies	Number of Co. Days	Total Number of Student Interviews	Average Number of Interviews/Co. Day
Fall 1956	273	317	3,191	10.06
Spring 1957	414	468	7,874	16.82
	687	785	11,065	14.09



New Swedish Type of Brown Stock Washers

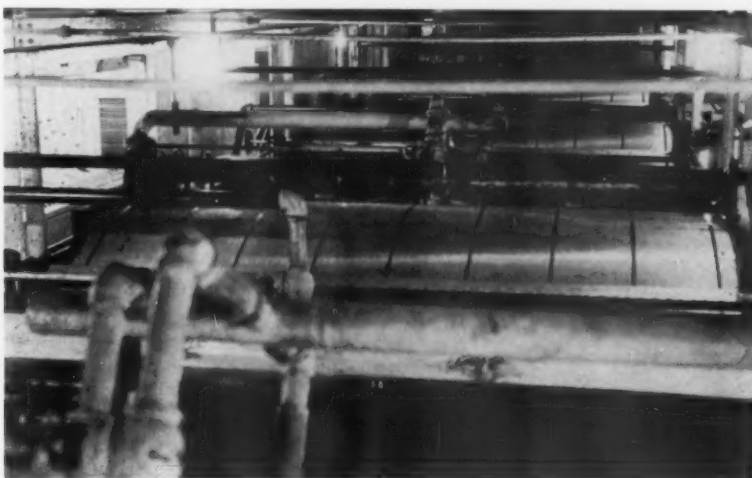
Four continuous stages replace batch washing at Minnesota & Ontario Paper Co's. International Falls Mill.

A Closeup of Showers for New Washer . . .



"Brain Work" for Washers is Done with These Controls . . .

BILL MARTIN (left), veteran chemical pulping supt. for M & O, and HANS NYBERG (right), young Swedish engineer at the Falls to inspect the new layout, are observing the Minneapolis-Honeywell semi-graphic control console and panel board, which shows flow of stock, liquor and dilution, speeds, all levels and discharges, pumps, motors and electrical apparatus.



Looking over the top of washers

This American adaptation of the Swedish Strindlund type washer is made by Shartle Brothers division of The Black-Clawson Co. and these pictures are of one of the first installations on this continent, obtained by a PULP & PAPER editor visiting the mill on the Minnesota-Ontario boundary line.

Unlike other types, some built with concentric circles divided on 120 degrees, this washer is a series of pipes 120 degrees apart, that spiral away from inlet to outlet. Spiraling tubes run inside the cylinders themselves, developing the vacuum which draws the dilution and shower liquor through the stock. The pulp, accumulated as a blanket against the wire face of cylinders, peels off and drops into the pulping chamber for remixing and goes on to the next stage.

Part of \$72,000 Program

The installation is part of M & O's continuing capital improvement program which has cost over \$72 million in the past 10 years. Vernon T. Francis, of M & O, was project engineer.

A blow tank precedes the four washing stages and stands outside the kraft building. The tank, 24 ft. by 62 ft. high, receives the stock and cooking liquor from the kraft digesters.

Before reaching the washers, the pulp is pumped through a magnetic separator, a DeZurik consistency regulator, a venturi flow meter, mixing tanks and Bird Jonsson knotters. J. O. Ross Engineering hood and exhaust system exhausts fumes coming from the washers.

To move the large quantities of dilution and shower liquor as well as the pulp, a total of nine pumps, with a combined capacity of 17,460 g.p.m. at a combined power requirement of 505 h.p., is required.

Layout for Modernized Kraft Mill

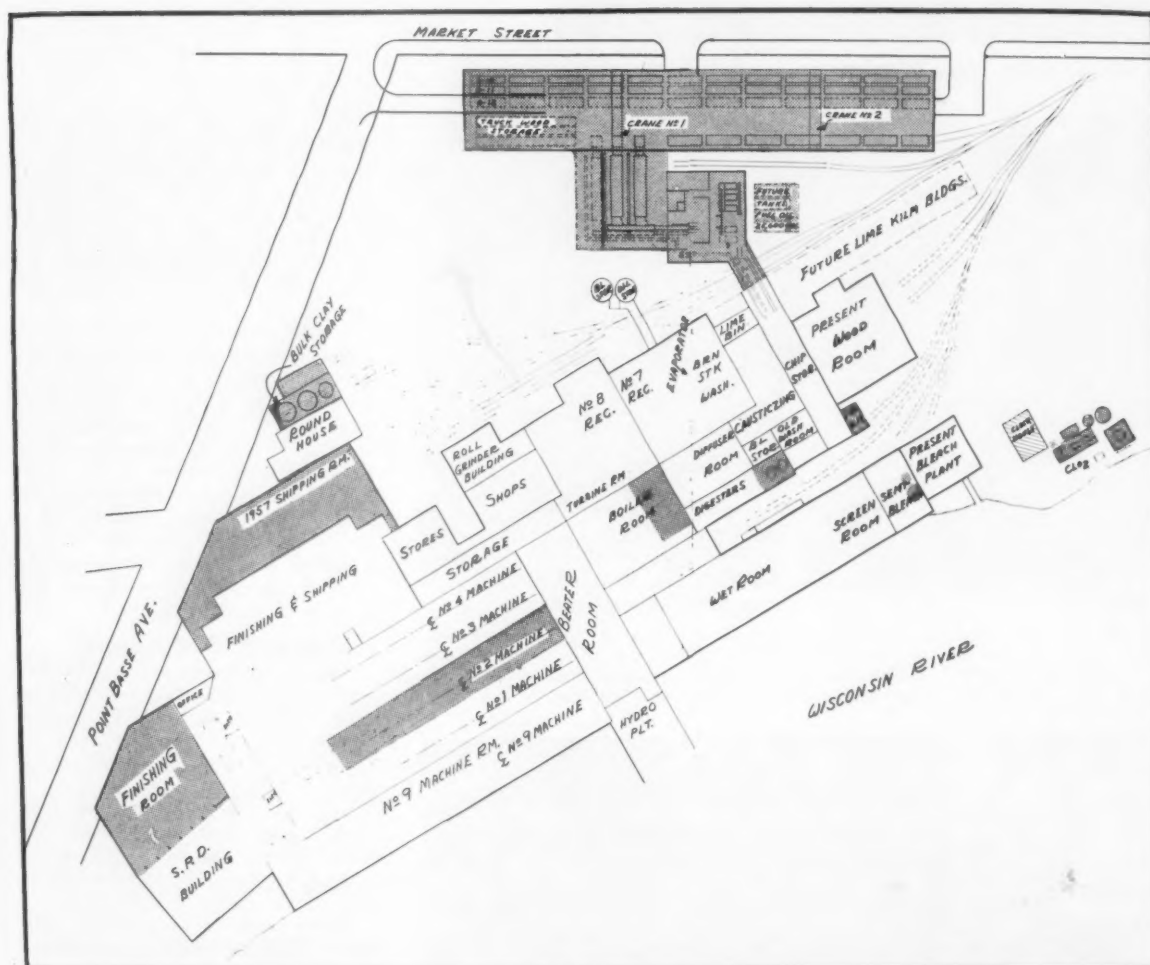
Programs at 3 Mills . . .

1. Some \$13,500,000 is being spent at Nekoosa, says John E. Alexander, president and general manager.

2. Another program of modernization is under way at the Port Edward sulfite pulp and paper mill, upriver a few miles.

3. And recently Nekoosa-Edwards bought the

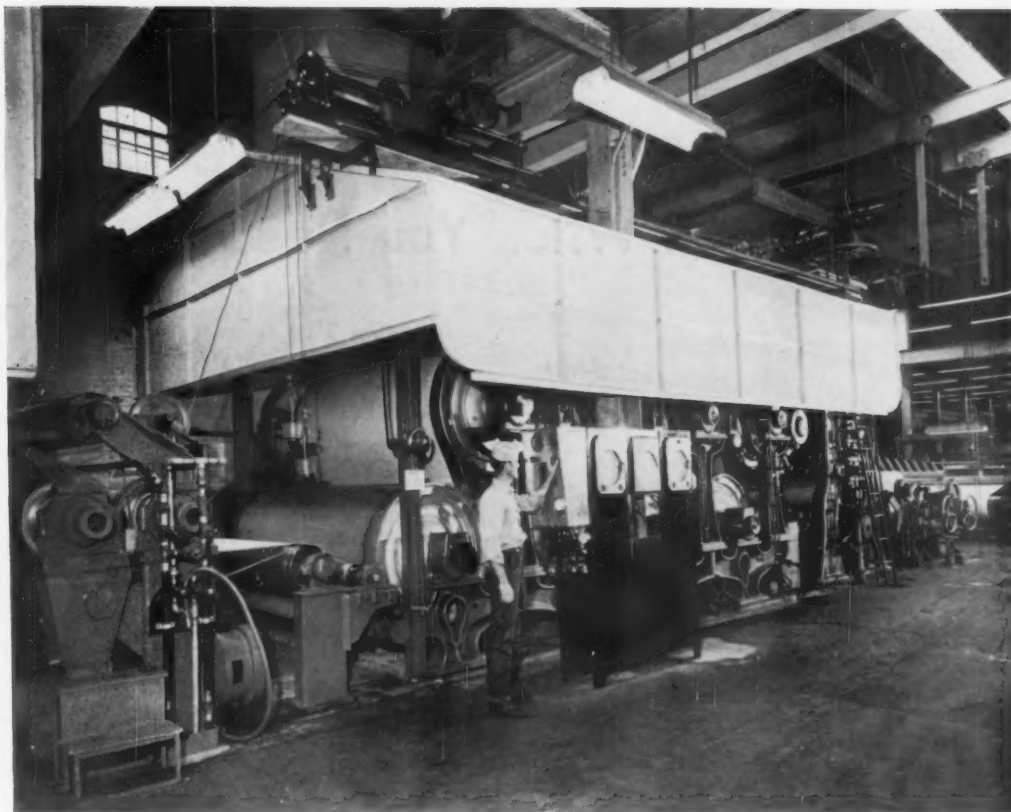
pulp and paper mill of Racquette River Paper Co., Potsdam, N.Y., where it will transfer an old machine from Nekoosa, build a bleach plant and water treatment plant and rebuild Racquette River machines. Orchard Paper Co., St. Louis, previous owners, will continue to operate the Racquette River converting plant and will expand it with bag machines, printing presses and converting machines.



Drawing shows major expansion projects at Nekoosa-Edwards Paper Co.'s kraft mill in Nekoosa, Wis. It includes:

New finishing room at lower left.
1957 shipping room at left center.
New clay storage at left center.
New D. J. Murray drum barkex and D. J. Murray chipper and electric generator.
Future lime kiln buildings.
At No. 2 spot, in machine room, a 145 in., 1500 fpm Beloit

Fourdrinier to make fine papers. Startup in 1958.
New Combustion Engineering power boiler at top.
Bleaching additions with ClO_2 stage.
Chlorine dioxide plant at right.
Chip elevator installation.
Two A. O. Smith unlined steel digesters.



Eight Days to Remodel Dry End

First step in completely rebuilding No. 3 machine was taken recently when the dry end was remodeled. Four dryers were added to the main dryer section and eight new after dryers were installed following a new Beloit horizontal size press. The calender stack was recondi-

tioned and, along with reel, moved to new location. A reconditioned winder, rebuilt to operate at 2,000 fpm, was installed. The dryer drainage system was completely revised to a Stamm system. In all, the length of the machine was increased more than 54 ft. Backtender THOMAS MARTINSON is at the switch.



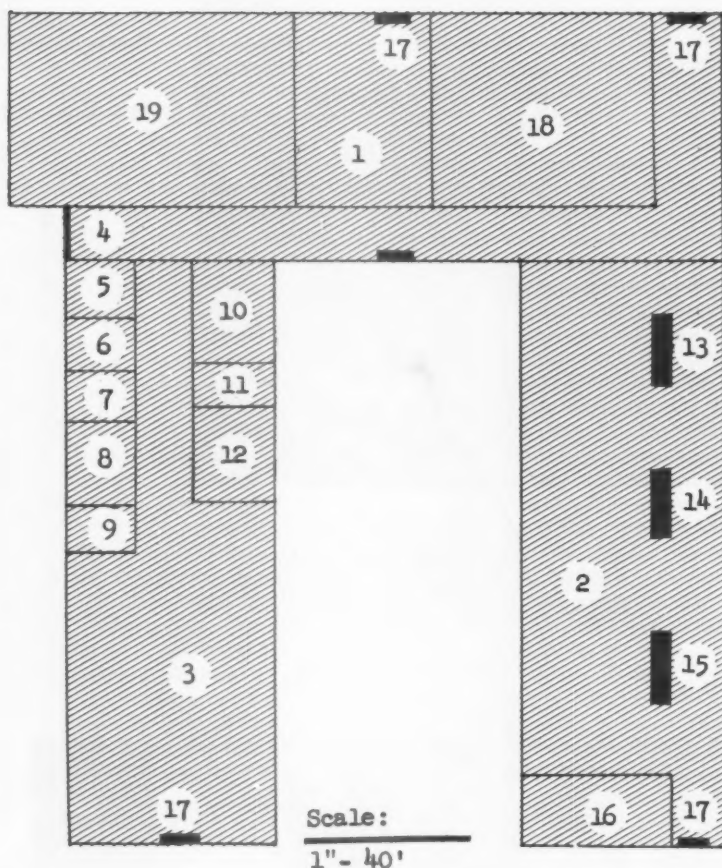
How to Pick Up a 67 Ton Digester

Two new A. O. Smith digesters were installed at the Nekoosa mill, each 46½ ft. high, 11 ft. in diameter and weighing 67.8 tons. A railroad wrecker with 120-ton capacity lifted new digesters into position after flat cars delivered them. Digesters are unlined, with 2 in. shell, capacity of 3,600 cu. ft. or about 8 tons.

Why Did American Box Board Co. Build This Big Maintenance Division? . . .

Maintenance is a MUST . . .

. . . . When You Need It . . .



Scale:
1" = 40'

Machine and Maintenance Shop, American Box Board Co.

- | | |
|---|--|
| 1. Store Room, 60' x 160' | 11. Men's room |
| 2. Machine Shop, 50' x 140' | 12. Paint shop |
| 3. Construction Shop, 50' x 140' | 13. Lathe |
| 4. Main entrance | 14. Planer |
| 5. Office of maintenance superintendent | 15. Roll grinder |
| 6. Office of general foreman | 16. Tinsmith, blacksmith and welder |
| 7. Office of maintenance clerks | 17. Doors 10' x 12', large enough for trucks to pass |
| 8. Conference room and library | 18. Hardware |
| 9. Office of construction foreman | 19. Spare Parts |
| 10. Locker room | 20. Passageway |

Reasons for New Filer City Addition:

1. Mill is 320 miles from both Detroit and Chicago, closest locations for kind of machine work it needs. Too far for mill needs.
2. Mill is expanding. A new kraft mill is being added to semi-chemical mill, requiring more shop services.
3. There are 22 tools of many sizes and kinds, permitting a wide variety of work to be done.
4. Facilities are provided for carrying on elaborate and very effective preventative maintenance.
5. Work space needs are provided for a sizeable maintenance staff.
6. Facilities make possible to keep excellent and complete records on all equipment.
7. Store room facilities are large. Because of remoteness of mill, the company standardizes on many lines.

. . . Of course, the human element enters in this story as it does in many others, and a big reason for success of this maintenance division—one of the largest in the midwest industry—is Mr. Florshinger, who is a perfectionist and inherits the German penchant for careful detail work.

Gordon Bonfield, vice president and general manager at Filer City, Mich., George Dlesk, operations manager, Don Elliott, plant engineer, Brian McMahon, production manager, and all the others who count on timely and efficient assistance from this maintenance department, have unbounded faith in Mr. Florshinger's operation. He has been at the Filer City mill since 1934, long before it became an ABB mill.

With its variety of tools and flexibility, the Filer City machine shop is a "machinist's heaven." Here's a run-down on this equipment:

Lobdell roll grinder, Hanchett knife grinder, a large planer, a lathe which swings 40 in. (in machinist terminology, a 40 in. x 20 ft. center to center lathe), two small lathes (each 20 in. swing, one a 6 ft. center, the other a 9 ft. center), a slitter grinder, pedestal grinder, do-all saw, cutoff saw, radio drill, a large standard drill, two small standard drills, two large shapers, a 24-in. universal shaper, a universal milling machine, a plane milling machine and a 50 in.-swing boring mill.

More equipment is in the construction shop, another wing of the new building, as well as in the smaller area for blacksmith, tinsmith and welder. A conference room and library is a part of the new structure, not commonly found in maintenance and machine shop areas.

A maintenance system for filing information and keeping up-to-date with mill conditions is very elaborate, and yet effective and practical.

Every piece of machinery in the Filer City operations has what the maintenance dept. calls "an asset number." Each number remains with a designated machine for its entire "life." All costs, charges and data on repairs, etc., are filed under its asset number. Copies are kept both in maintenance and the accounting dept. At a moment's notice, the amount of money spent on a machine in five years, or 20 years, is available, along with other information.

Files on Kinds of Equipment . . .

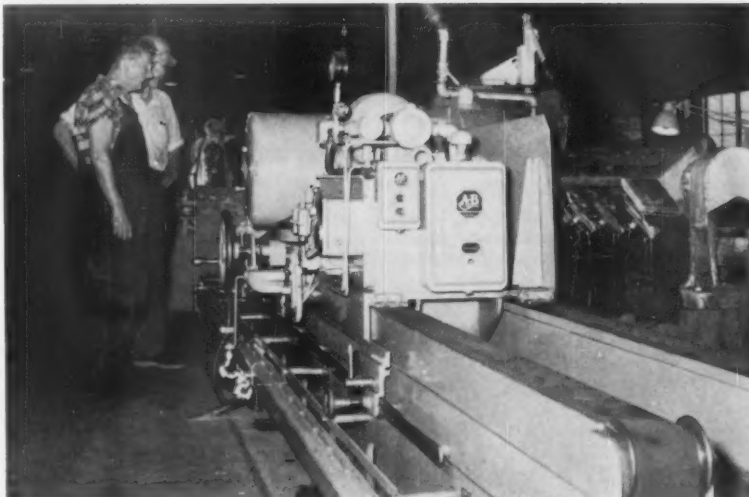
The meticulous Mr. Florshinger has complete files or surveys on many kinds of equipment. He can pick up bearings and spare parts by their numbers. He has complete files on chains, sprockets, v-belts, flat belts, conveyor belts, valves, etc. He keeps dimensions on all valves from Crane Co., for example. Some of these files are rare for this industry. It is probable, for example, that Mr. Florshinger's file on packings was the first in this industry, and possibly one of the few in existence.

Because of its distance from supply centers and for better maintenance, the ABB staff is standardizing on quite a few lines of equipment, such as certain valves and pumps.

The shops and maintenance building is of an all steel construction, with concrete foundations up to the windows and insulated aluminum siding. The metal roof is insulated and tarpaper covered. ●



General view inside Machine Shop. . . .



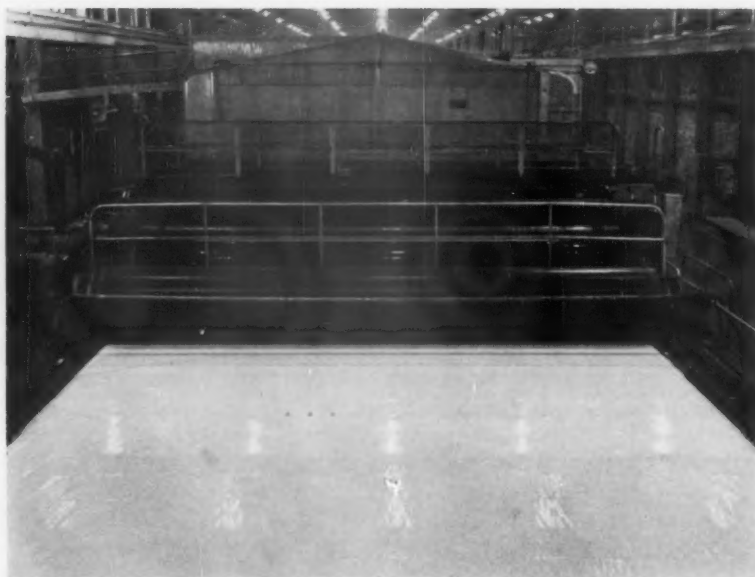
The Hanchett knife grinder at work. . . .



Tony Florshinger, Maintenance Supt.

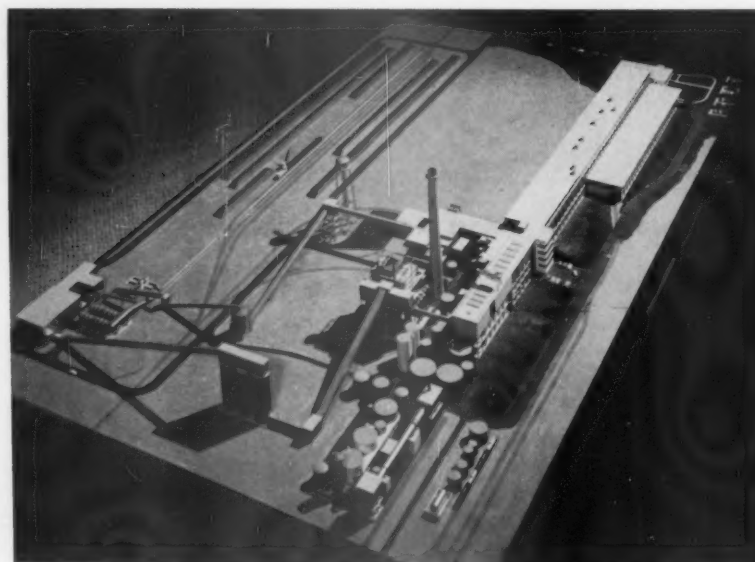
. . . who studied engineering at Mannheim University, Germany, and came to U.S. in 1922, stands proudly in front of Maintenance Division entrance. Other picture shows a side view of the division, with machine shop and construction shop wings of building in foreground.

Around The Industry . . .



This Fourdrinier Will Give Glass Bottles a Battle . . .

For first time in Canada's history, bleached kraft board is being made on a Fourdrinier at Canadian International Paper's LaTuque, Que., mill. The machine will make 15,000 tons this year; will double output over 5 years. Today only 7% of milk in Canada is packaged in paper (compares with over 50% in U.S.). This new 255 in. Beloit machine has been making liner board and corrugating for several months.



New Southern Mill Will Look Like This . . .

Container Corp. of America's new bleached sulfate pulp and board mill at Brewton, Alabama, is due to start production by late 1957 or early '58. Backed by a first option on about 400,000 acres of timberland in Alabama and adjacent states, the \$30 million mill extends Container Corp.'s growing Southern development which includes an integrated box plant at Fernandina Beach, Fla. Staffing for mill is proceeding, with some key men drawn from Northern operations.

Progress Report on New Texas Mill

During a recent visit to the new Southern Pine Lumber Co. pulp and paperboard mill at Diboll, Tex., a staff member of PULP & PAPER saw the finishing touches being put on the steel erection there. Carroll Allen, company engineer in charge of construction, said Bauer Bros. Co. has already shipped some of the pulp mill equipment, and a new Bauer Bros. rapid cycle digester should be installed any day now.

More chippers have been ordered from Sumner Iron Works to supplement the Sumner chippers already in use at the plant. Chips are currently being sold to nearby pulp mills, with white oak and red oak waste as the raw material.

Black-Clawson Co. has given a tentative Oct. 1 delivery date on a Bagley & Sewall Fourdrinier machine now being erected at its Paper Machine Division in Watertown, N.Y. General Electric gear motors have been purchased, and a GE static switch gear and controls will be used in a new type of installation, according to Mr. Allen.

George Rommel of Johnson & Johnson Engineers, Inc., Chicago, is in charge of consulting services being given by that firm. He is working closely with Arthur Temple and Latane Temple, president and vice president respectively of Southern Pine Lumber Co.

When the plant gets into full swing it is expected to produce 300,000 sq. ft. of half-inch board daily.

Encourages Art Studies

As a part of its public relations program the British Columbia division of the Canadian Pulp & Paper Assn. is encouraging study of art among students in provincial towns many of which are mill towns. Prizes ranging as high as \$200 are awarded, and the better examples are displayed in Vancouver. More than 1400 art students, ages of 6 and 16, were eligible for this year's competition.

N.Y. Meeting Set

Empire State TAPPI's Metropolitan District will meet Oct. 8 at Frances Tavern, Pearl and Broad Sts., New York City. T. S. Morse, manager of sales service, paper chemicals, Hercules Powder Co., will talk on "Rosin and Rosin Size as Used in Papermaking."

What's Union Role in Wage Rise?

How is the production "pie" made bigger? A touchy subject is objectively explored by an industry economist, consultant

BY RUTH SHALLCROSS

Consulting Economist and Lecturer,
Institute of Paper Chemistry



DR. SHALLCROSS, who studied at Nebraska, Bryn Mawr and abroad, was research director of Business - Professional Women's Clubs. She applies an unemotional "surgeon's scalpel" to what is often a sore subject in industry.

● In teaching economics at the Institute of Paper Chemistry during the last ten years, one very touchy subject kept reappearing: Namely, what is the role of labor unions in raising wages?

In each discussion, I would make the statement that, excluding government control, no one factor, such as labor unions, could in the long run alter "real" wages of workers—"real" being an economist's term for purchasing power.

Invariably several students would dispute the statement and cite cases where union leaders had very definitely won wage increases for their members. Instances from the pulp and paper industry with which the students are familiar were given as proof that a union had been the responsible element.

Specifically the West Coast pulp and paper workers were cited as receiving the highest wage rates in the industry by being organized on an industry-wide basis. Newspaper headlines seem to confirm this generally accepted idea. Needless to say union leaders have repeatedly stated the position and influential people outside the labor movement, including employers, members of Congress, and judges have acted upon the assumption that it is so. To what extent is it so and why is it important at this time?

Union leaders make the claim that they should be given the legal right to compel membership because they bestow economic benefits on members

and non-members in union shops. It is of importance to employers, to all workers who do not wish to join unions, and to all who are interested in the fate of the constitutional right of voluntary association that the claim be examined. In support of this claim, the unions, in their current attack on the "right-to-work" laws of some 18 states (giving workers the right not to join a union as well as the right to join one) state that non-members are "free-riders" who benefit by the unions without contributing to the unions' expenses. The present secretary of labor has called the state laws "anti-labor" and "not in the best interest of the economy," probably in accordance with the Keynesian economic theory that mass consumption (which unions claim they have enlarged and sustained) must be provided to keep the mass production system expanding. Following the secretary's position, another state—Louisiana—repealed its "right-to-work" law.

What Courts Held . . .

The highest legal authority of the land in theory—if not de jure—has upheld in effect the unions' position. In the *Hanson* case of May, 1956, the Supreme Court reversed the Nebraska Supreme Court's decision by ruling that the state's "right-to-work" law did not take precedence over the Congressional 1951 Amendment to the Railway Labor Act of 1934. Under the Bill of Rights—particularly the First and Fifth Amendments guaranteeing life, liberty and property, and the freedom of association—compulsory unionism is unconstitutional, according to the Nebraska Supreme Court.

Despite the fact that the Norris-LaGuardia Act, the National Labor Relations Act, the Taft-Hartley Act, all make mention of the basic right of free men to choose whether or not they wish to join a union, some judicial opinion has been expressed approving the unions' case for compulsory unionism. Former Chief Justice Hughes in upholding the Railway Act (281-U.S.548) stated: "Collective action would be a mockery if representation were made futile by interference with freedom of choice." Advocates of the union position disregard the absurdity that whenever a voluntary or-

ganization benefits anyone it should be allowed the legal right to compel financial support. Let us examine whether or not the unions are correct in their economic claims.

In the typical Institute classroom discussion, when the *prima facie* evidence seems to confirm overwhelmingly the statement that unions are the chief factor in increasing wage rates of members and non-members in union shops, one of the students would be asked to look up the trend in real hourly earnings over the last 50 or 100 years.

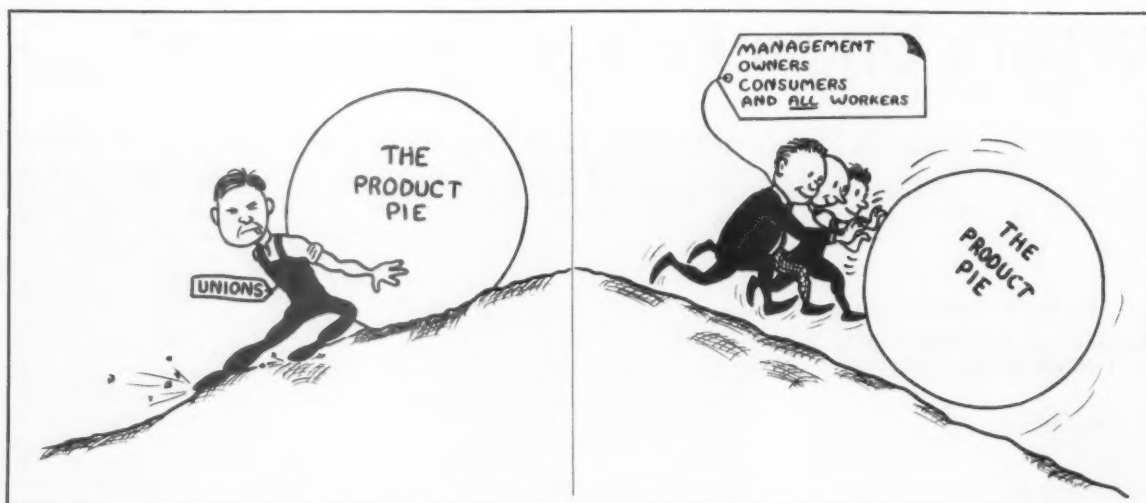
This can always be done quickly by consulting any historical statistical series of such earnings. A chart drawn by The National Industrial Conference Board is particularly clear. A study of it does not allow a student to pinpoint the date when unions became effective enough to influence wage rates. This always comes as a complete shock, particularly to those who feel emotionally that unions are being unfairly attacked.

Until the Wagner Act was passed in 1935, giving government sanction to labor organization, union membership was not substantial enough to influence wages in more than a very few industries. The data give no indication, as the union leaders claim they can exert by collective bargaining, of any one outstanding influence during the period, 1935-45, when union membership had its most rapid growth.

Wage Rose Before Unions Grew . . .

Just recently a book was published, "Why Wages Rise," by Dr. F. A. Harper [Foundation for Economic Education, Irvington-on-Hudson, N.Y., 1957] which concludes: "Neither wage rates nor union membership could be predicted from the other, with any accuracy whatsoever," from the data, and "no noticeable relationship between the two is to be found."

An "increase in wage rates which began at the close of World War I continued with amazing consistency for the entire period from 1917 to 1955. . . . If one says that the two lines [union membership and real earnings on a chart] are related but there is a lag in time of some 15-20 years, the evidence would be that



Unions Alone Can't Make "Product Pie" Bigger . . . It Takes Management, Owners, Consumers and All Workers—Together.

rising wage rates cause union membership to rise, not vice versa. In any event it is the opposite of the theory that unions cause wage rates to rise. Consequences do not happen before their causes." Why must this be so?

Dr. Harper answers this by stating the age-old classical principle of economics which is so often forgotten: "Wages can be paid only out of what is produced." Prof. William Paton, University of Michigan, states the same thesis as central to his textbook on economics: "We can't consume any more than we produce and only through increased production is a higher standard of living possible."

Unless government allows a monopolistic advantage in the market, no one factor in price determination can be singled out as the effective one and thus claim special privilege as the result. If the single factor of labor unions cannot lay claim to be solely responsible for economic benefits, then that factor cannot ask for legal power to compel membership on the strength of it.

There is no evidence that the impact of labor unions has been unique. When charted, the growth of wage rates (wage per hour, per man) follows very closely the rise in production on the same basis, as of course it must. Productivity is then the key to the growth in wage rates and the continuation of an increasing standard of living. It is obvious that if anyone produces paper, peanuts, or anything else, he cannot have more than he produces. No organization—union or any other—can give him any more, without forcing others by law to give what he did not produce in a robbing-Peter-to-pay-Paul sense.

Why Do Unions Get the Credit? . . .

If this is so, then why the general belief that unions are chiefly responsible for the increases in real wages? Philip D. Bradley attempts to explain this in his study, "Involuntary Participation in Unionism" [American Enterprise Assn., Inc., Washington, D.C., 1956].

His main conclusion is that the nature of the post-war union contracts, the union threats of strike—or actual strikes—with the subsequent publicity of the union leaders' role in negotiations and settlements, give a tremendous advertising advantage in placing before union members and the public what seems to be proof of the superiority of collective bargaining over individual bargaining. Moreover, during the last 17 years when union leaders have won this public support, many a wage increase was offset by deteriorating dollar because of rising prices. Thus the unions' gains left the workers in many cases about the same purchasing power.

However, some real wage increases did take place. Were these gains greater than individual workers could have obtained without the union leaders' help? The burden of proof to answer this is on the union leaders, but they have never tried to prove it. The question must in all fairness be raised as to what influence the unions can exert in obtaining economic benefits for workers.

Three Areas of Possible Influence . . .

There are three areas which unions can influence: (1) the distribution of the product "pie," (2) the supply of labor, and (3) the rate of productivity.

These influences do not warrant the union leaders' claim for power over workers who wish to bargain individually, but they must be analyzed as to the extent and their result on the economy. What is the union influence on the distribution of the product "pie?"

To answer this, an examination of the product "pie" must be made and an answer must be found to the question: Does the economic principle of a single producer who cannot have more than he produces apply when multitudinous exchanges take place? In answer to the latter question first, Dr. Harper thinks it does essentially.

He states that the product "pie" is divided roughly into two unequal parts. The larger part (about 85%) goes to "pay for work done currently" and the other part (about 15%) goes to pay for work done in the past but not spent then—savings. Much of the 15% goes into capital which has throughout our history been largely responsible for the enlarged product "pie" that has provided a continual rise in the standard of living for all [Note the factors affecting productivity listed in my article in *PULP & PAPER*, Feb., 1956].

Because of the increase in productivity, workers are not working as hard nor as long (weekly hours of work have been decreased from about 70 in 1850 to the present 40), yet there is no evidence that unions were the factor that brought about this progress. (Savings going into government bonds or taxes are currently spent, even when going into the Social Security Fund. As government expenditures rise, a constantly lowering of the share of the "pie" that is saved for

increased productivity can be expected.)

Union leaders have argued that they are entitled to all of the product, according to the Marxian concept of the "labor theory of value." Assuming that they had enough political power to bring this about, such a distribution could only be effected once. It would provide one last short-lived fling but at the high cost of any further rise in productivity and hence standard of living. However, it could be argued that unions after taking control of management would create a fund for labor-saving devices and other improvements which would increase productivity at about the present rate. The result would be a mere exchange of those who save and manage.

Benjamin Fairless stated during the big steel strike, when the government's seizure of the mills was declared unconstitutional, that by putting the amount of the company's offer of wage increases into company stock over a stated period of years, the union could gain control of his company.

What Industry Studies Show . . .

Throughout the nation's history, the free market has been provided with capital and know-how for an almost continuous rise in productivity which shows up in a steady rise in real earnings of workers. If the pressure of union collective bargaining had altered the distribution of the product "pie," it would show up in an industry-by-industry study. It does show up in several studies, but not to substantiate the union leaders' claim.

One study particularly is worth examining: "Unionism and Wage Income Ratios: 1929-51" ["Review of Economics and Statistics," Feb., 1954]. Prof. Paul E. Sultan concludes: "The evidence presented here suggests that, whatever the impact of union pressure, it has not served to increase the distributive share going to labor in those industries which are highly unionized, relative to those industries which are not. Thus, the hypothesis that 'where wage earners are strongly organized in trade unions they can succeed in obtaining a larger share of the product than elsewhere' is not supported by the statistics of this study."

The unions might argue effectively that they can influence real wage rates by altering the supply of certain types of labor. Some unions have tried this by controlling apprentices and by forcing union control over the number of skilled workmen entering a given market. The real earnings of those able to obtain employment did rise. But not all workers who wanted employment were able to find it.

The industrial unions reject this method of raising wage rates. Their theory is that union power must be exerted to raise earnings of the mass of workers. As a consequence industrial unions have had complaints that certain policies—notably what the unions call a guaranteed annual wage—have been advantageous to the unskilled but not the skilled worker.

Unions Reject Concept of Productivity . . .

The union leaders might better argue that they have forced management into more efficient operations than would otherwise be the case and thus they have earned the increases they have demanded. Some employers would join them by saying that cooperative unions can be very helpful in increasing productivity when their efforts are not offset by destructive strikes, bad worker morale, slowdowns, feather bedding, the policy of seniority rather than merit, and threats by ambitious leaders desirous of monopolistic power. Some efficiencies do result from bargaining with one representative rather than with each worker individually. But this argument that unions can increase productivity and thus earn their demands is rejected by most union leaders.

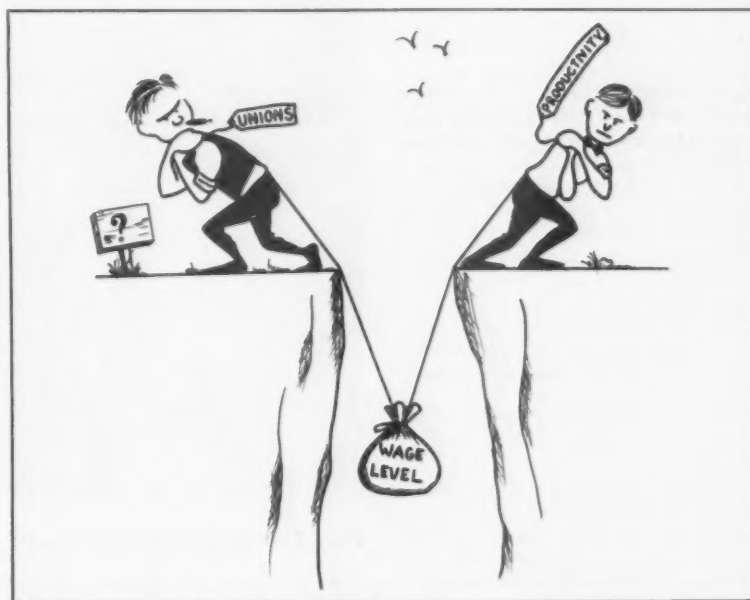
The whole concept of productivity as the basis of wage rates is unacceptable to union leaders as it cannot be reconciled with their Marxist concept of "capitalist exploitation." They cannot argue that unions help employers effectively in raising the productivity

rate and at the same time justify the use of methods of force which can only decrease productivity. This raises the question of what can be achieved by force.

By force of strong union pressure, the distribution of the product "pie" at any given period of time and for a particular group of workers can be effected, as is witnessed frequently, but at the expense of lowering "real" earnings. This is done by passing the cost of the wage increases on to consumers by higher prices which would be at the expense of all consumers.

Whenever the market will not allow for any rise in prices to take care of forced increased wages, then unemployment results with possible failure of the company involved. Price increases are considered preferable to unemployment, particularly in a society which has placed a premium (and backs it with legislation) on full employment. In this situation, the unions' periodic demands for wage increases are made possible largely by the government policy of providing facilities for increasing the money supply.

Thus the economic merry-go-round brings us back to the original statement that labor unions cannot in the long run cause real wages to be increased unless they do so by helping to increase productivity. By force they might be able to reduce the saving share of the product "pie" but at the extreme cost of lowering the productivity rate from which further increases must come.



Who Is Raising the Wage Level?

PULP & PAPER's Old Timer

Rolls Back Curtain On Kalamazoo . . .



PULP & PAPER's Old Timer cornered Ray L. Barton, who is general supt. of the Michigan Paper Co. division of W. C. Hamilton & Sons, in the papermen's "lobby" in a Kalamazoo hotel. Through a blue haze a lot of familiar faces could be distinguished. This inspired Ray to reminisce. He goes back about 25 years in Kalamazoo Valley papermaking.

Jim Wise was assistant supt., working under Mike Redmond, at Kalamazoo Paper Co., in those days, recalled Ray. Jim Wise, now president of the firm, says: "Those were the days when a papermaker urged his son to go to college so he wouldn't have to work in the mill. . . .

"Now, he urges his son to go to college so he can get a job in the mill. . . ."

Ray Barton was chemist at Michigan Paper Co., then, just fresh from Groveton, N.H.

A young fellow who had been chemist at the nearby Allied Mills was just starting out to sell clay. He carried a hairbrush in those days. That would be Olin (Cal) Callighan, now paper industry sales mgr. for Minerals & Chemicals.

"Max Bardeen, now president at Lee Paper, was supt. then, working under his father. Bert Cooper, now vice president at Kalamazoo Paper, was then purchasing agent. Up at MacSimBar mill at Otsego Falls, a husky machinetender named Walter F. Wolfe was making a good showing . . . on his way to becoming general supt. . . ."

Ray was warming up to our Old Timer . . . really getting in the groove. . . .

"But even back in those days some of the best known 'supers' who are still on the job, were already starting in those positions, but their mills and jobs were much smaller. For instance, there was an Indiana Hoosier, Glen Sutton, at Sutherland Paper, Art Cole and Henry Niendorf were at Rex Pa-

per. Then there was Bob Stewart of KVP, who came from Maine, now retired. . . ."

Not yet in Kalamazoo, but working with Detroit Sulphite was Dwight Stocker. Now he is KVP's president. Allen Milham, who has become a modern farmer nearby, was an executive at the Bryant coating mill. J. F. French of French Paper was just getting started. Bill Hathaway, now KVP supt. of papermaking, was still in college. Al Sherwood, Sutherland v.p. now, was a young engineer just come from Springfield, Mass. Arnold Weller, now supt. of Sutherland's East Side plant, was a machinetender. A

lanky redhead, in those days, was selling clays, fillers, etc. That would be Jack Dickson, who is in rubber roll covering now. Jim Foxgrover was becoming more widely known, and developing his distinguished taste in haberdashery. . . .

About this time young Jim Verdon was supposed to be working out with the Notre Dame football squad. At any rate, some years later he told this story to an army colonel in a Paris bar, and to Jim's dismay he found himself assigned to an overseas football squad for a workout the next morning . . . in the Bois de Bologne, or some such place.

The late father of John and Jim Verdon, the Old Timer heard, was pioneering sales of a sensational "light-colored" gum rosin . . . G grade. Today, they don't make a rosin that dark any more . . . they are up to X grade, and using wood and tall oil instead of gum. . . .

A "HOW TO DO IT" SPECIAL



Cure for "Slippery Floor Blues" . . .

Slick floors which are hazardous for mill personnel have been cured by this simple panacea at East Texas Pulp & Paper Co. Stainless wire mesh fastened securely to the floor in spots subject to splashing water, gives traction to feet, prevents slipping. Here Pulp Mill Supt. Wayne Robinson studies mesh in the screening room. Mesh helps keep shoes dry, improves appearance of areas which are hard to keep dry.



Justice Sloan: "Grant all existing forest applications . . ."

Long Awaited Report...

May Set Forest Pattern for Future

A distinguished figure jauntily wearing his familiar Homburg walked across Victoria, B.C.'s causeway recently, carrying a bulky document.

Chief Justice Gordon Sloan and the document, his 880-page report on the province's \$600 million forest industry which he had taken two years to prepare, was welcomed by Premier W. A. C. Bennett. In the long-awaited report, may be the blueprint for British Columbia's forest administration for at least a decade. The government and legislature will decide—next spring.

Twelve years ago the chief justice had presented his previous report, then less than 200 printed pages.

Recommendations he then made set a revolutionary pattern, including the controversial forest management license system—a big stimulus for British Columbia's spectacular pulp and paper expansion.

His assignment in 1955 was more difficult. The license system had been put to the test, and many were complaining. Small operators claimed they were being frozen out by big companies. Big companies sometimes quarreled over the divisions.

These are his recommendations:

1. Grant all 21 existing applications for forest management licenses, but discourage new applications during the next five years. Exceptions would be Powell River Co., Canadian Forest Products and Crown Zellerbach Canada "for exceptional reasons," these being the fact that these companies have large processing plants already in existence and are committed to allocating large areas of their own to the areas to be licensed.

2. Limit new licenses to 21 years rather than in perpetuity, as at present. However, the way would be left open for renewal after 21 years if conditions are favorable.

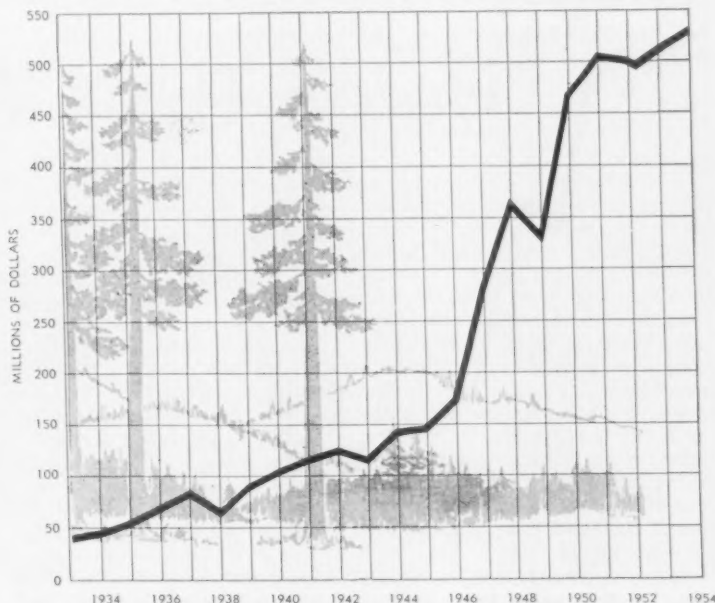
3. The provincial government to purchase the Esquimalt & Nanaimo Railway forest belt on Vancouver Island (3,000 square miles) for \$108 million so as to be able to provide more choice forest land for licensing, especially for small, independent open-market loggers.

4. Establish a forest advisory committee "as a channel of official information" between forestry experts and

the government. This represents a modification of Justice Sloan's recommendation 10 years ago that administration of the forests be placed in the hands of an independent commission. The government rejected that.

5. Re-check the boundaries of existing license areas on the ground that some forests reserved for individual companies under the license system may be larger than warranted.

6. Make the Provincial Forest Service a sort of "elite corps" with salaries on a much higher plane—"highest in the civil service" in recognition of the forest's economic importance.



Value of B.C. Forest Production 1933 to 1954



Top row (l to r): F. H. Wilson-Easley-Stocker-Peterson-Westbrook-Porter-Vayo-Fannon-Mrs. Fannon

Second Row (l to r): Dixon-Mrs. Hayes-Hayes-Mrs. Breunich-Breunich-Rolland-Mrs. Sutphin-Knowlton-Dahl

Third row (l to r): Mrs. Sargent-Sargent-Mrs. Nicholson-Leonard-Eisenmenger-Ritchie-Mrs. MacDougall-Davis-Mrs. Lozier

Fourth row (l to r): Mrs. Dixon-Wright-F. H. Wilson-Mrs. F. H. Wilson-Archie Key (fishing guide)-A. W. Wilson-Mrs. A. W. Wilson-Mrs. Easley

Consumers Inspect Hinton . . . Here's Their Verdict:

The group traveled to and from Hinton with a number of St. Regis Paper Co. officers and staff men. St. Regis is partner with North Canadian Oils in the Alberta venture, handling operations and sales. The American contingent boarded special cars on the Great Northern in St. Paul on Aug. 17. Joined by the Canadians in Winnipeg, the entire group made the rest of the trip to Hinton and Jasper National Park (where they stayed three nights) by an entire special train, preceding its regular train by a few hours over C. N. tracks. The special laid over at Jasper and the party returned via same routing.

Woods and mill tours, a woods camp luncheon and a final gala dinner at Jasper Park were main events. At this dinner, these were highlights:

Rang Doorbells for Wood . . .

A. Thomas Easley, resident manager at Hinton, an Iowan who a few years ago was traffic mgr. for a large Midwest motor carrier, then was eastern production mgr. in International Milling Co., joining St. Regis in labor relations in 1953, said:

"We have created a \$2,000,000 annual payroll and are spending \$3% million for wood and services. We went around ringing doorbells to get the backwoods settlers interested in a cash market for their wood. If we hadn't gone in here 30,000 cords a year would be wasted in fires. Last year at this time there were five major forest fires here—this year there has been only one little 2-acre fire."

Mr. MacDougall brought greetings from the Canadians and paid tribute

to the many major developments under way in Canada by St. Regis.

Mr. Porter called Hinton an "amazing transformation" since his visit two years ago, and emphasized the importance of this new source of "high quality" pulp supply.

Mr. Ritchie called Hinton the product of "the genius of financial men and risk capital, of government officials who think straight on free enterprise and of engineers and technicians who developed an operating mill." In a lighter comment about the trip, he proposed "the first woodpulp cash and carry supermarkets to be inaugurated by this industry."

How "Hi-Brite" was Named . . .

Vice Pres. Reginald L. Vayo, who heads all kraft pulp and paper sales for St. Regis, and who coined the

What They Said . . .

—Hinton, Alberta

On-the-spot interviews by PULP & PAPER with a group of leading paper company executives of the Middle Western and Eastern areas of the U.S. and Eastern Canada, all of them representing market pulp consumer companies . . .

They had just completed a tour of the new 150,000-ton "Hi-Brite" bleached kraft pulp mill of North Western Pulp & Power Ltd., located at this bustling and attractively laid out town (which was just a whistle stop on the Canadian National two years ago). Here's what they said were most significant and most interesting features:

1. "Synchronization . . . the mill is almost automatic . . . no gaps in continuous production."
2. "A low cost wood and low cost fuel . . . the natural gas pipeline from nearby fields of co-owners (North Canadian Oil) is important." (Wood delivered to mill is around \$17 or \$18.)
3. "Virtually a new fiber to work with . . . the virgin forests on east slopes of the Rockies."
4. "The continuous cooking system with its small blow tank."
5. "The small number of workers needed, comparatively . . . also the chance to train inexperienced workers in a new area, the way they want to."
6. "They pile wood at mill in winter for use in summer; the reverse of what we do in the east. They truck in the winter and we river-drive in summer."
7. "The up-to-date mechanical handling of wood throughout."
8. "The huge Minton dryer (world's biggest) . . . the whole impressive machine room layout."
9. "Elaborate water treatment and chemical handling . . . the ClO₂ plant and six stage bleaching . . ."

name "Hi-Brite" for Hinton pulp at a Hotel Pierre midnight session in New York over three years ago, recalled some of its history.

E. W. Hinman, Alberta's provincial treasurer, was final speaker. He gave the consumers first news of a story that broke several weeks later in papers all over the world—how the government is passing out checks to every resident of Alberta (about \$20 a piece) in dividing up oil royalties collected for several years. The cutting of this huge dividend pie is being debated widely in Canada—some observers arguing the money should have been spent for schools, hospitals, roads, etc.

Mr. Hinman said, "There was not one inkling of chiseling about our negotiations" with North Western for 2,000,000-acre timber allotment and additional 2,000,000 acre reserve. "No concessions were asked, no demand for roads, no royalties for us."

He said 90% of Alberta, rich in oil, forests, etc., belong to the people, but "we have no idea we should take over its management. We are glad you sent in the know-how. Our government welcomes industry."

St. Regis Vice Pres. Kenneth D.

endary lives of characters shown on little totem pole gifts to the guests—including a thunderbird, a dragon and finally a child of these two and an amazing Indian woman known as Tsiiviladaw, called Pulp-o-Hi-Brite.

For a complete story and description of the mill, including an article by St. Regis Pres. W. R. Adams, "as told to PULP & PAPER," see P & P Sept. issue, page 48, also a forest story on page 94, and description of the world's biggest forest inventory here, page 96, same issue.

One of the major by-products of this Hinton tour were friendships developed among those who took part. St. Regis hosts and wives took part. In fact, everyone agreed one of the biggest of all accomplishments in starting up Hinton was a job done by Mrs. Kay Easley and other wives of the staff, entertaining, feeding and housing scores of visitors from all over, officials, engineers, experts, etc., in the face of sudden water shutoffs, very limited facilities, 50 degrees below zero weather, etc.

These were St. Regis people on the train (accompanying wives in parentheses): Ken Lozier (Alice); Howard C. Peterson Jr. (Betty Jean), gen. sales mgr., kraft division; William M. McNair, sales mgr.—pulp dept.; Ben Cotterill, Toronto, William M. Crosby, New York, Colin M. Marquis, Montreal, and Ralph Wehmhoff, Chicago, all pulp sales reps., and Arthur H. Dahl, traffic supervisor. Reaching here by other routes were Mr. Vayo, Edwin H. Jones Jr., his executive assistant; Elmer "Opie" Hayes, Tacoma mill office mgr., and Cecil Davis, North

Lozier, was a scintillating toastmaster, capping the evening with an uproarious story, Indian style, describing leg-



Huddle at Digester Panel . . .

Easley, in plaid shirt, is explaining graphic control for Kamyr continuous digesters to (l to r) Peterson, Leonard, Bell, Eisenmenger.



Top Row (l to r): Shattuck-Mrs. Shattuck-McCorry-Sutphin-Tropp-Mrs. Tropp-Bell-Mrs. Burton-Burton

Bottom Row (l to r): MacDougall-Lozier-Hart-Foster-McNair-Crosby-Porter-Wehmhoff-Nicholson

Western controller. Local hosts were: Tom Easley (Kay); Adolph C. McCorry (Cora), production mgr.; Adrien Provencher, woodlands mgr.; Robin A. Huth (Dorothy), public relations mgr.; Denholm Smith, pulp supt.; Stan Hart (Ruth), asst. woodlands mgr.; Des Crossley (Isobel), chief forester; James Clark (Margaret), woodlands dept.; Ben Hoy (Alta), chief chemist, and Guy Dempsey (Rita), logging supt.

Side notes on Hinton:

Champion speckled trout fisherman (and women) were Mrs. Stew (Fran) Foster; Mrs. Aubrey (Ruth) Nicholson; and F. Howard Wilson . . . Alice Lozier was voted "hostess with the mostest"; she never tired of seeing everyone was happy . . . some 265 year old spruce were pointed out by guides . . . St. Regis was developing a machine that both cuts and delimbs trees; it was shipped to Rhinelander for further trials . . . Hinton mill is built on 20 ft. of gravel, no pilings . . . the biggest mill in Canada back in the '90s is now headed by Howard Wilson; it was first in Canada to make bag and toilet tissue . . . Pete MacDougall and Andre Rolland caused biggest excitement, joining train in red hats and red pants . . . Dwight Stocker and Bill McNair were amazed to find they rowed against each other at Yale—class crews—long before they ever met . . . the Easleys were excited over sending a son to Shattuck school as well as farewelling consumers . . . Reg Vayo did nobly as host and speechmaker, though pretty loaded with antibiotic shots for a virus . . . Mrs. Helen Dixon was pre-celebrat-

ing a Sept. 18 birthday . . . Jim Ritchie took 34 rolls of color films . . . he easily beat P & P's editor in picture taking . . . some consumers confi-

dentially revealed news of remarkable new uses of paper in their mills; sorry we can't tell you, but it was certainly cheering news . . .

Who Said It . . .

Here are the visitors to Hinton, from whom the above comments or similar statements were drawn in PULP & PAPER interviews (names of wives who accompanied them in parentheses):

W. ROY BELL, purchasing agent, W. C. Hamilton & Sons, Inc.

HENRY BREUNICH, Jr., (Dot), asst. gen. mgr. of purchases, Continental Can Co., Inc.

WENDELL W. BURTON (Margaret), pulp and paper buyer, Chase Bag Co.

ROBERT M. CAIRNS (Pearl), mgr., Lachute, Que.

ANDRE ROLLAND, purchasing agent, Rolland Paper Co. Ltd.

ROY E. SARGENT (Laura), purchasing agent, C. H. Dexter & Sons Inc.

GORDON B. SHATTUCK (Anne), mgr. of supply, Strathmore Paper Co.

DWIGHT L. STOCKER (Leola), president, The KVP Co.

SAMUEL R. SUTPHIN (Lisa), executive vice prs., The Beveridge Paper Co.

JACK B. TROPP (Bunny), director of purchasing, Peter J. Schweitzer Inc.

F. HOWARD WILSON (Adrienne), president, J. C. Wilson Ltd.

HECTOR D. WRIGHT (Maude), gen. purchasing agent, The E. B. Eddy Co.

HARRY CRABTREE (Isobel), vice pres. and gen. mgr., Garden City Paper Mills Co., Ltd.

VERNON C. DAVIS, purchasing ag-

ent, Fitchburg Paper Co.

H. PHILIP DIXSON (Helen), vice pres.-mfg., Fox River Paper Corp.

JOHN E. DRISCOLL, purchasing agent, Ecusta Paper Div., Olin Mathieson Chemical Corp.

CARL H. EISENMENGER (Beatrice), vice pres.-mfg., Sorg Paper Co.

RALPH W. FANNON (Wilma), mgr., pulp sales, Marathon Corp.

T. STEWART FOSTER (Frances), president, Foster Paper Co., Inc.

ROGER G. GODDEN (Mary), general sales mgr., St. Lawrence Corp., Ltd.

JAMES L. HAYES (Madge), paper mill supt., Bemis Bros. Bag Co. (Peoria, Ill.).

DAVID C. KNOWLTON (Jane), president, Knowlton Bros. Inc.

ROSS S. LEONARD (Evelyn), director of purchases, P. H. Glatfelter Co.

PETER L. MACDOUGALL (Nini), pulp sales mgr., Howard Smith Paper Mills Ltd.

AUBREY K. NICHOLSON (Ruth), president, Hollingsworth & Vose Co.

WILLIAM T. POUND (Jessie), vice pres., St. Lawrence Corp. Ltd.

Other guests: REED R. PORTER, exec. secy., Assn. of Pulp Consumers Inc.; JAMES L. RITCHIE (Betty), executive director, U. S. Pulp Producers Assn. Inc.; JOHN C. EVANS (Julie), editor, Paper Trade Journal; J. NEWELL STEPHENSON (Margaret), editor, Pulp & Paper Magazine of Canada, and ALBERT W. WILSON (Jessie), editor, PULP & PAPER.

APPA Reveals Safety Record of 348 Mills

A new report on injury frequency rates just released by the American Paper & Pulp Assn. shows a 1956 rate of 9.1, compared with 15.23 in 1949, the first year the study was conducted in its present form. Of 348 mills participating, 18 had perfect records. Crown Zellerbach Corp., Port Townsend, Wash.; The Munising Paper Co., Munising, Mich.; Scott Paper Co., Marinette Paper Co. Div., Fort Edward, N. Y. and Georgia Kraft Co., Macon, Ga., led the list with over a million man-hours worked.

The other mills with perfect records, ranked in order of most man-hours worked, are: Scott Paper Co., Falls Power & Paper Co. Div., Oconto Falls, Wis.; The Ruberoid Co., Dallas, Tex.; The Mead Corp. Wheelwright Div., Leominster, Mass.; Scott Paper Co., Marinette Paper Co. Div., South Glens Falls, N.Y.; Marathon Corp., Ashland, Wis.; Marathon Corp., Sunnyside, Wash.; Riegel Paper Corp. Hughesville Mill, Milford, N.J.; The

Flintkote Co., Mt. Carmel, Ill.; The Old Town Co., Old Town, Me.; National Vulcanized Fibre Co. Marshall Bros. Div., Yorklyn, Del.; The Cheney Pulp and Paper Co., Franklin, O.; Spaulding Fibre Co., Inc., Hayes Plant, North Rochester, N.H.; Banner Fibreboard Co., Wellsburg, W. Va.; and Rogers Fibre Co., Inc., East Poland, Me.

The report uses a two-color technique (in black and red inks) to highlight mills whose performances are better than industry average—or

worse. Better than average mills also receive an Award of Merit. Results are encouraging and show a continual improvement in safety performance, but by no means is the job finished, says Secretary Harrison "Harry" Daysh of APPA's Industrial Relations Committee.

Members of APPA's Safety Subcommittee are Vern G. Cornelius, Pulp and Paper Mfrs. Assn., Appleton, Wis., secretary; Harley Goodrich, Strathmore Paper Co., West Springfield, Mass.; Robert W. Gray, Union Bag-Camp Paper Corp., Savannah, Ga.; S. W. Sid Grimes, Pacific Coast Assn. of Pulp and Paper Mfrs., Portland, Ore.; and Charles R. Hagan, Oxford Paper Co., Rumford, Me.

Representative Pulp and Paper Companies Sales and Earnings — First Half 1957

	Net Sales (000)	Income Bef. Taxes (000)	% of Sales	Net Income (000)	Net Per Share
MARKET PULP (Also Lumber, etc.):					
Brown Co. (11/30)	\$ 34,377	\$ 1,794	5%	\$ 1,053	\$0.41
MacMillan & Bloedel Co. (9/30)	129,780	15,635	12	8,261	1.56
Puget Sound Pulp & Timber	13,054	3,216	25	1,544	0.68
Rayonier, Inc.	60,021	6,796	11	3,894	0.71
Weyerhaeuser Timber	207,305	43,846	21	28,146	0.93
NORTHERN INTEGRATED COS.:					
Abitibi Power & Paper	66,463	13,423	20	6,583	1.51
Consol. Water Power & Paper	36,257	7,804	22	3,653	1.44
Diamond Match	63,802	6,440	10	3,410	1.13
Eastern Corp.	13,109	1,118	8	626	1.57
Glatfelter, P. H.	13,067	2,372	19	1,039	2.82
Great Northern Paper	32,201	3,620	11	2,010	1.78
Hammermill Paper	23,292	2,057	10	1,221	1.08
KVP Co. (9/30)	27,590	3,217	12	1,507	1.84
Oxford Paper	30,242	3,643	12	1,697	1.90
Warren, S. D.	30,940	3,835	12	1,845	1.69
INTEGRATED—NORTH AND SOUTH:					
Champion Paper & Fibre (3/31)	84,622	n.a.	—	6,573	1.44
Crown Zellerbach Corp.	227,363	32,613	15	18,776	1.31
International Paper	482,868	n.a.	—	37,400	3.04
Kimberly-Clark (10/31)	175,098	n.a.	—	13,507	1.40
Riegel Paper	30,932	3,089	10	1,442	1.10
St. Regis Paper	173,552	20,449	12	9,896	1.25
Scott Paper	139,471	22,233	16	10,783	1.34
SOUTHERN PAPER & BOARD COS.:					
Southland Paper Mills	14,693	4,292	29	2,103	4.68
Union Bag-Camp Paper	78,881	19,298	24	9,138	1.25
PAPERBOARD COS.—NORTH & SOUTH:					
Container Corp. of America	125,894	16,335	13	7,882	0.74
NON-INTEGRATED PAPER COS.:					
American Writing Paper	8,335	729	9	341	1.26
Sutherland Paper	32,036	4,016	13	1,927	1.80
CONVERTER:					
Dennison Mfg.	17,942	1,898	11	926	1.41

The sales and earnings for the First Half of 1957 were especially prepared for PULP & PAPER by Cyrus J. Lawrence & Sons, members New York Stock Exchange, from statistical services and published reports. While the figures are believed to be correct, no guaranty is given as to their accuracy. Fiscal year ends Dec. 31, 1957 except where another year-end date is shown after the name of the company in column on left.

Golden Gate TAPPI-ites To Hold First Meeting

The new Golden Gate District of the Pacific Section of TAPPI holds its first meeting Oct. 8 at Sabella's restaurant on Fisherman's Wharf, San Francisco. Dr. Jack Barton of Waxide Div., Crown Zellerbach Corp. in San Leandro is chairman.

Taube Arvola, deputy state forester from Sacramento, will discuss forest resources of Northern California and C. R. P. Cash of Fibreboard Products, Inc., Central Engineering Office, Lafayette, Calif., will talk on the new fiber industry of Northern California. Officers will be elected. A committee has nominated Dr. Barton for chairman; Wayne H. Kuefner, Flintkote Co., San Leandro, Calif., vice chairman; Harold A. Harvey, Penick & Ford, Ltd., Inc., San Francisco, secretary-treasurer; and as additional members of the executive committee: Harris Fenn, National Aniline, San Francisco; Ted Nelson, C & H Sugar Refining Co., San Francisco; and Walter D. Esselstein, Bemiss-Jason Co., Redwood City, Calif.

Nation's Foresters to Meet

One thousand of the nation's leading professional foresters are expected to attend the 57th annual meeting of the Society of American Foresters in Syracuse, N. Y., Nov. 10-14.



CARL RAAKA (left) and BOB SOLARI ask a question:

Better Quality Pulp From Hardwood

Is the industry overlooking a less expensive fiber source?

Here's a suggested answer: Couple high yield mechanochemical pulping with peroxide bleaching.

The result: Versatile pulps for book, tissue, bond, and board stock.

... The catalyst for this kind of thinking stems back some five years when Shell Chemical Corp. developed its own non-electrolytic process for making hydrogen peroxide (H_2O_2). It began to train technologists years in advance of the on-stream date of production. Bleaching process research followed market surveys.

Says Shell's Bob Solari, 8-year man (marketing, market research, followed by 18 months bleaching research at the U. S. Forest Products Lab at Madison, Wis.), "In 1950, only a few mills were using H_2O_2 ; today there are dozens and the number is growing. Peroxide bleaching is a natural companion to better forest utilization."

One interesting angle uncovered in a cooperative research project at the Institute of Paper Chemistry is the possibility of greatly improved efficiency of peroxide utilization in pulp bleaching. Another Shell project has shed light on the important problem of reversion and how to reduce it, and a third has given the industry process data for designing cold soda pulp bleach plants.

To back up its thinking, Shell built a top-notch pulp, paper and board

laboratory at its recently expanded research center at Union, N.J.

Other major areas of the laboratory's program are:

1. Study of hydrogen peroxide in multistage bleaching processes, particularly for mechanochemical pulp.

2. Study of the basic chemistry of hydrogen peroxide bleaching to improve its efficiency and reduce bleaching costs.

Group leader of the pulp laboratory is Carl Raaka (both manufacturing and marketing) who has brought to the lab not only 9 years' practical production experience, but also some unique time and motion techniques. As a result, experimental programs and testing time have been drastically reduced. Available to mills are field engineers for in-plant evaluation.

The groundwork well prepared, Shell's new Norco H_2O_2 plant near New Orleans, La., is just about to come "on stream."

From ammonia for sulfite pulping to Ionol as paperboard antioxidant, and now with hydrogen peroxide, integrated Shell Chemical is becoming more intimately identified with the pulp, paper and paperboard industry.

Story of the Missing Digester—It Took a Dive

One problem of digester corrosion that will probably never be solved concerns the fate of one of the Dominion Bridge Co. 14-ton capacity units ordered for installation at B.C. Forest Products bleached sulfate mill at Crofton, B.C. It won't be solved because the digester is at the bottom of the sea.

A Vancouver, B.C., towing company had the contract for delivering eight digesters to the Crofton site. Each one was loaded on a barge to be towed across the Gulf of Georgia.

Seven reached their destination without mishap. But the eighth ran into heavy weather. To the amazement of the crew the massive cylinder rolled away from its lashings and toppled into the sea. Down, down it went to the sea floor, about 600 feet below the surface.

B.C. Forest Products, the towboat company and even the Royal Canadian Navy made efforts to retrieve the sunken digester, without success. It was insured. Dominion Bridge Co. hastened construction of a replacement.

Plans for Coast Supts. Meeting

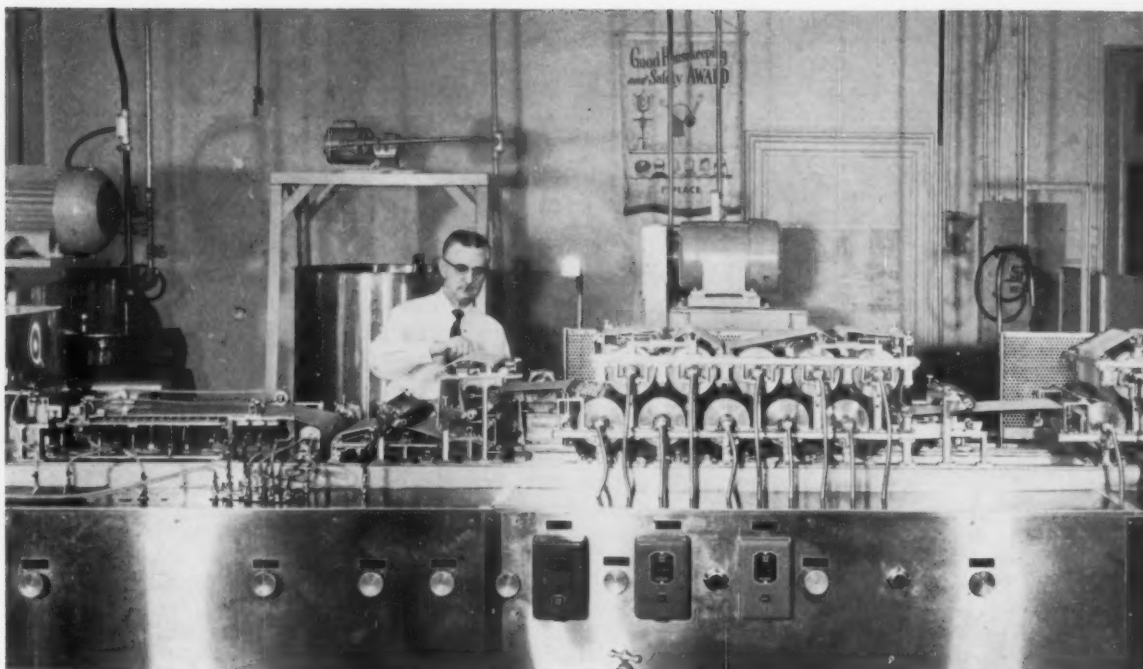
New industrial developments are to be "unveiled" at the fall meeting of Pacific Coast division of the Superintendents Assn. Dec. 5-7 at the Olympic Hotel in Seattle, according to Chairman Jack V. Savage, sulfite supt., Crown Zellerbach's Camas mill. A presentation will be made on Crown's "little tissue machines," now operating as individual production components in prime West Coast market areas.

Frank R. Hamilton, gen. supt., Simpson Paper Co., Everett, and program chairman, says recent accomplishments in specific pulp-paper production phases will be presented by key men.

Officers of Coast Division are Mr. Savage, chairman; Henry Dauterman, Longview Fibre Co., first vice chairman; Mr. Hamilton, second vice chairman; Glen King, Crown Zellerbach, West Linn, Ore., third vice chairman; and R. Burke Morden, Morden Machines Co., secy.-treas.

Profit Sharing Conference To Be Held in New York

The tenth annual Profit Sharing Conference, sponsored by the Council of Profit Sharing Industries, 400 West Madison St., Chicago, Ill., will be held at the Hotel Commodore, New York, on Nov. 14 and 15.



New Research Tool . . . Bunge's Midget Fourdrinier

Proves Reliable Tester of Mill Runs

Duplicates Many Grades of Paper, in Opening New Fields for Dye Formulation, Chemical Treatment and Methods of Application . . .

. . . The 3 ft. wide, 20 ft. long machine duplicates many grades of paper. Made of stainless steel by Bunge Pulp & Paper Co., it is installed at a DuPont technical laboratory in Deepwater, N.J., where it has made over 800 trials since May, 1956.

Paper mills are reluctant to make trial runs that are expensive, tying-up men, machines and capital. The Organic Chemicals Dept., Dyes and Chemicals Division, is enthusiastic about what this machine can do in overcoming this stumbling block, says Joseph Gessner, manager of the laboratory's paper division. About six runs can be made a day. Demand for machine time has grown considerably.

Spans Lab to Mill Gap . . .

"The results should make the coloring of paper simpler, less costly and will help us to develop chemical treatments which could improve

many physical properties of paper—such as, dimensional stability, wet and dry tensile strength, mullen, tear and flexibility," says Mr. Gessner, a 25-year veteran with Du Pont. He has visited most paper mills in the U. S. in servicing Du Pont's customers.

With it, Du Pont bridges the gap between laboratory and actual mill production. The average paper laboratory relies on handsheets. Studies on this machine are a lot more dependable in predicting results on a commercial sized unit.

The laboratory unit can approximate a corresponding mill trial under operating conditions. More variables can be introduced and more information can be obtained in a short time than could be obtained in months on a big machine.

Recently Du Pont added a new dye to its line. Only a few runs were required on the little machine to learn

about the dye's relatively non-two-sided quality and other properties as they are related to actual commercial machine production.

Du Pont plans to add a calender stack and coating equipment. A modification of a size press by Du Pont makes it possible to surface color on one or both sides of the paper for an over-all coloring job or correcting two sidedness.

Versatile Fourdrinier . . .

The 5 ft. high machine's dryer temperatures can be controlled up to 550° F. It is generally satisfactory for making bond and writing paper, book papers, glassine, carbon tissue, bag and wrapping, liner board and practically every type of paper that can be produced on a Fourdrinier. Auxiliary equipment includes a 1.5-pound Dills beater, a 10-pound Valley beater and a 25-pound Jones beater.

Modernizing Stock Preparation Pays . . .

● The problem on No. 9 machine at Camas, Wash., Crown Zellerbach mill was to get stock of improved uniformity and quality.

Stock preparation facilities had presented continuous production problems. Although under almost constant operator surveillance, stock prepared for the machine was wanting in uniformity.

No. 9 is devoted to producing toweling and tissues of various grades and colors, the volume running 80-90 tons

per day. These specialties have formulae requiring up to four different pulps and as many as three dyes for a single grade.

The conversion primarily consisted of installing an appropriately-equipped mixing chest to replace two old-type 1500-lb. beaters—which were limited to 1000 lb. capacity for some stocks.

This new mixer, tile-built by Stebbins, has capacity for 7000 lbs. of fiber (B.D. basis), at 3¼% consistency.

It is equipped with 11 stainless stock lines—each carrying a different stock and fitted with hydraulic-controlled Fabri-Valve valves, a 2-speed propeller-type Mixing Equipment Co. "Lightnin" mixer (125-hp developed at high speed, 67½ hp at low), DeZurik consistency controller and Foxboro instruments.

Modernizing the stock preparation facilities was "all for the better," according to Beater Dept. Supt. Ed Webberley.

"The present installation makes it possible for us to supply the machine with a uniform consistency, maintain correct percentages in the different stocks and do it consistently day after day," he said. "Besides improving quality, the saleable volume is increased."

Operation Is Simple . . .

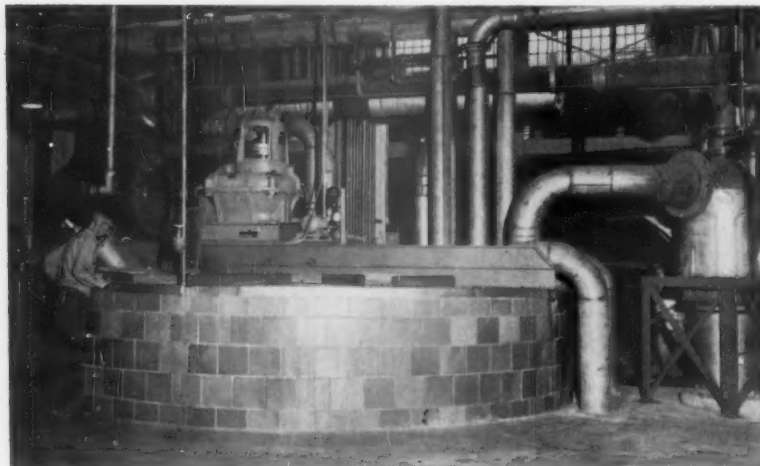
Stock enters the mixing chest from the various stock lines which are panel controlled. The operator turns the mixer on at slow speed early in the mixer-filling process, later switching to high speed when the mixer becomes half or two-thirds full. He adds dyes and chemicals while loading the chest with stock.

The full charge is mixed three to five minutes. At the same time, stock from the mixer is pumped through the consistency regulator, thus reducing consistency from 4.2 to 3¼%. The DeZurik regulator is instrument controlled, so the water shuts off automatically.

A stainless steel cover, built by Northwest Copper Works, as were the stock lines, fits over top of the tile chest.

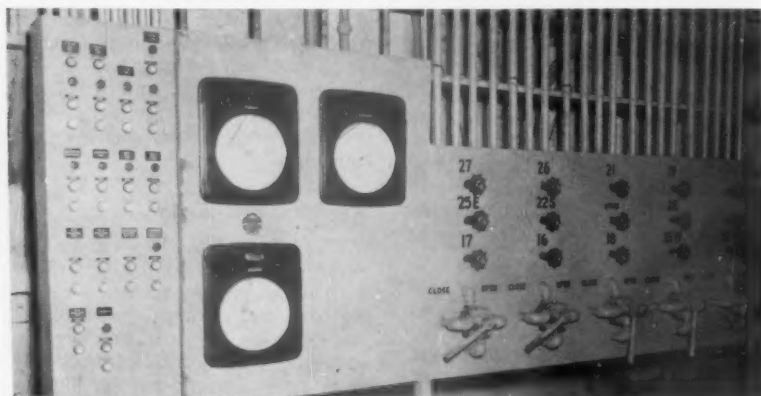
A pump delivers the mixed batch from the mixing chest to No. 1 beater chest, a 5-ton capacity unit agitated by a 50-hp "Lightnin" mixer. Stock from here subsequently goes to No. 9 machine chest.

This modern stock preparation system, designed for 100 tons per day, is considered as having capacity for twice the present put-through production. Thus the stock-supply end of No. 9 machine is in position to meet additional demands which might occur as result of increasing capacity of the paper machine.



New 7,000-lb. Capacity Mixing Chest Replaces Beaters

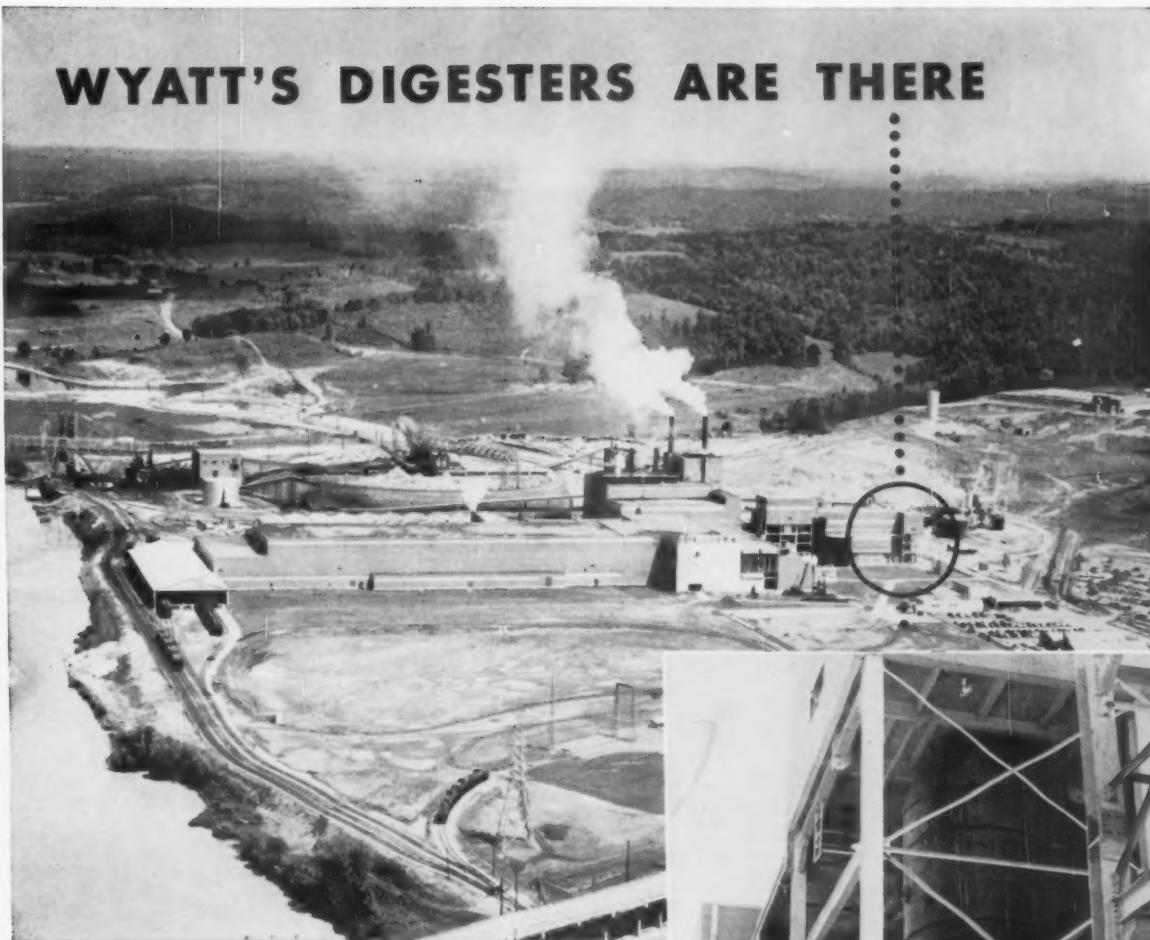
Above unit is 2-speed "Lightnin" mixer driven by 125-67½ hp Allis-Chalmers motor. DeZurik consistency controller at right. Stebbins tilework.



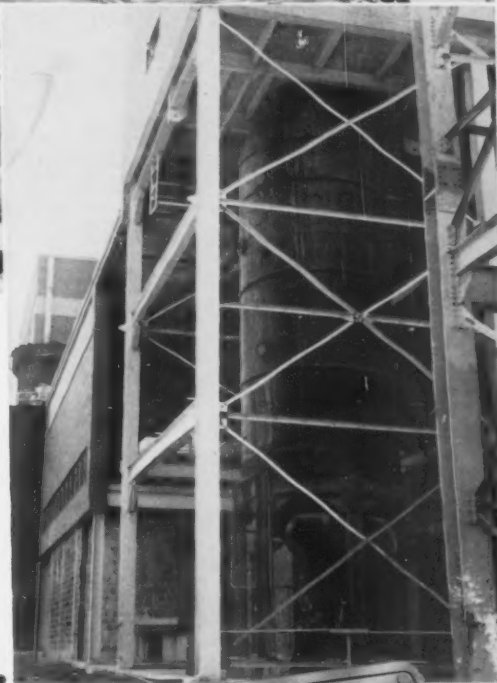
Controls for Stock Preparation

Foxboro instruments: Recorder-controller for consistency (left), level recorders for mixer and beater (middle), hydraulic-operated stock valves (right).

WYATT'S DIGESTERS ARE THERE



- Bowaters Southern Paper Corporation
Calhoun, Tennessee
Largest Newsprint Mill in the South

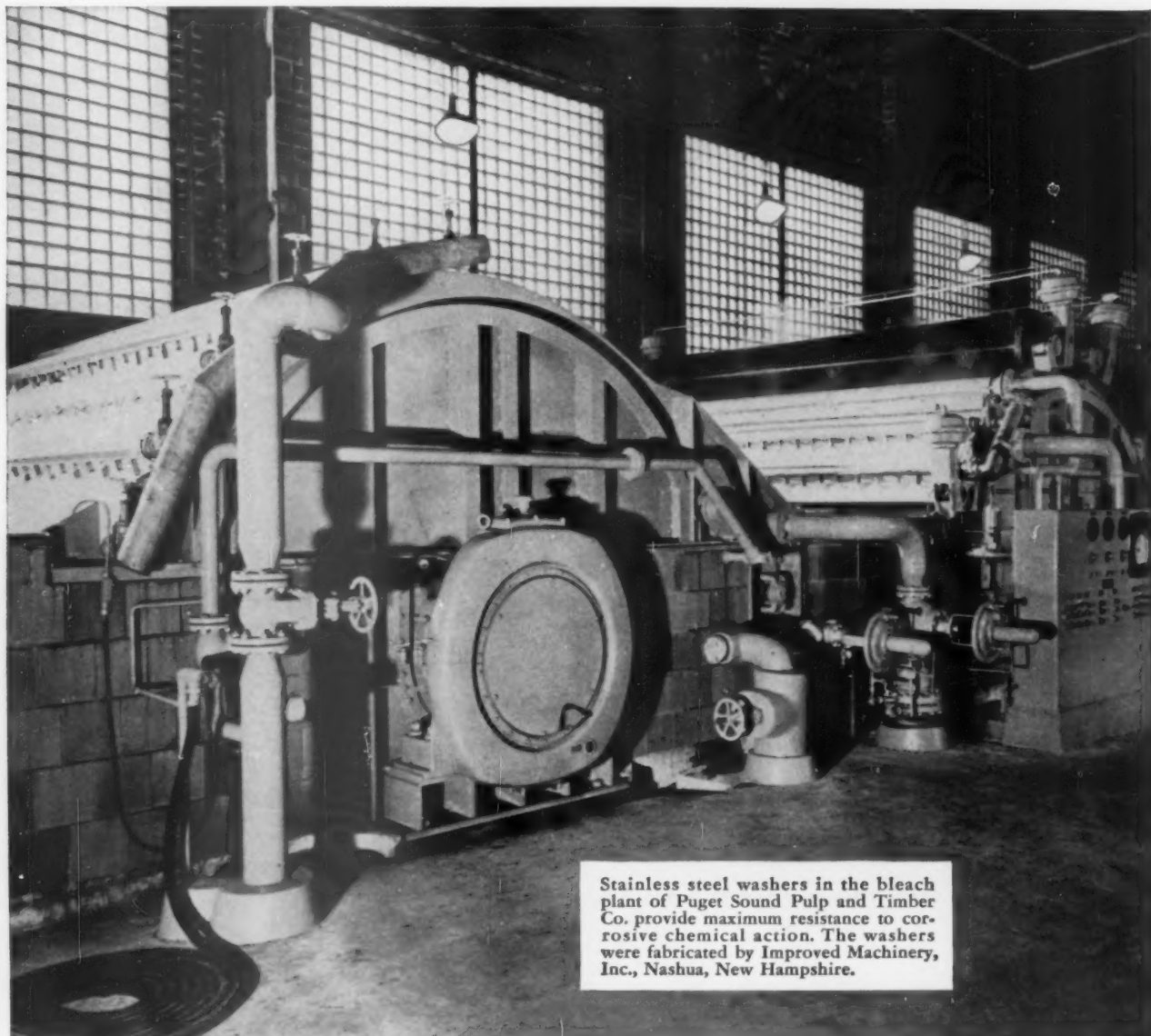


..... WYATT
METAL & BOILER WORKS
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Pulp Washing in



Stainless steel washers in the bleach plant of Puget Sound Pulp and Timber Co. provide maximum resistance to corrosive chemical action. The washers were fabricated by Improved Machinery, Inc., Nashua, New Hampshire.

REPUBLIC



World's Widest Range of Standard Steels

STAINLESS STEEL

**safeguards quality, keeps costs in line,
assures continuous production**

At Puget Sound Pulp and Timber Company, Bell-
ingham, Washington, a combination of long expe-
rience, fine raw materials, and modern equipment
results in a superior pulp product.

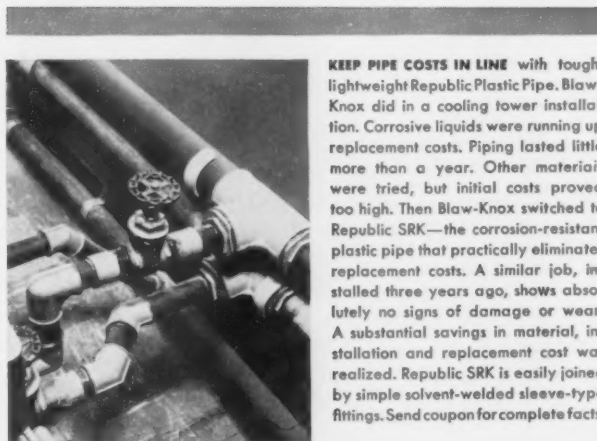
The chlorination and hypochlorite washers, shown
at left, are installed at Puget Sound's bleach plant.
They are indicative of the Company's widespread
use of modern stainless steel equipment. No other
construction material offers a combination of quali-
ties and physical properties so essential to the
mechanical and chemical stages of pulp making
and processing.

Stainless steel safeguards pulp quality. Stainless
steel is solid. It has no applied surface to crack,
chip, flake or peel. There is no danger of metallic
contamination. Stainless is inert to most chemicals
and chemical compounds. It does not add unwanted
elements to spoil product quality. It never takes
anything away.

Stainless steel keeps costs in line. Stainless is easy
to clean and keep clean. Usually, a simple flushing
with water or diluted acid solution brings stainless
steel back to sparkling cleanliness. Stainless steel
offers the highest resistance to corrosion of any
commercial metal currently being used for pulp and
paper making. As a result, it provides substantial
savings in maintenance and replacement costs. Stain-
less equipment is an investment in long-range savings.

Stainless steel assures continuous production.
In addition to its outstanding corrosion-resistance,
stainless steel offers "bonus benefits" in the form of
high strength, heat-resistance, abrasion-resistance.
The exceptionally high strength of stainless takes
stress and vibration in stride. Stainless equipment
resists scaling at high temperatures. Possesses high
creep-strength. Shrugs off abrasion. Your original
investment in stainless steel equipment will be re-
turned many times over in the form of uninterrupted
and profitable production.

Selecting the proper type of stainless is extremely
important. Republic—world's largest producer of
alloy and stainless steels—will help you make that
selection. Our metallurgists are constantly working
with processors and equipment builders in applying
the many available Republic ENDURO Stainless Steel
analyses to best advantage. May we help you? There's
no obligation. Just mail the coupon.



KEEP PIPE COSTS IN LINE with tough,
lightweight Republic Plastic Pipe. Blaw-
Knox did in a cooling tower installa-
tion. Corrosive liquids were running up
replacement costs. Piping lasted little
more than a year. Other materials
were tried, but initial costs proved
too high. Then Blaw-Knox switched to
Republic SRK—the corrosion-resistant
plastic pipe that practically eliminates
replacement costs. A similar job, in-
stalled three years ago, shows abso-
lutely no signs of damage or wear.
A substantial savings in material, in-
stallation and replacement cost was
realized. Republic SRK is easily joined
by simple solvent-welded sleeve-type
fittings. Send coupon for complete facts.



**GUARD AGAINST PRODUCTION SHUT-
DOWNS** by protecting your electrical
wiring systems with Republic ELEC-
TRUNITE "Dekoron"-Coated" E.M.T.—
the electrical raceway that shrugs off
corrosion. A tough coating of poly-
ethylene encases lightweight, strong
ELECTRUNITE® E.M.T. in an end-to-end
armor that is impervious to excessive
moisture and corrosive fumes. It can
be cut to length and bent to fit as
easily as standard E.M.T. conduit. Also
available on hot galvanized rigid
steel conduit. Joints are protected by
polyethylene or vinyl-backed electri-
cal tapes. Contact your local electrical
distributor. Or mail us the coupon for
more details.

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☐ ELECTRUNITE "Dekoron-Coated" E.M.T.

Name _____ Title _____

Company _____

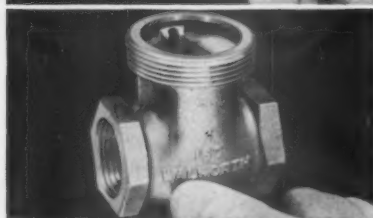
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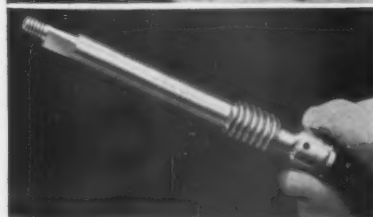
Here's what makes Walworth Bronze Valves *the* real bargain!



TYPICAL OF WALWORTH QUALITY is the union body-to-bonnet connection which stiffens the body against internal pressure; makes taking the valve apart a simple operation and reduces the chances of distortion or leakage even though the valve is repeatedly taken apart and reassembled. With this type of construction there is no possibility of the bonnet coming off the valve while the handwheel is being turned.



HEAVY BODY CONSTRUCTION is typical of *all* Walworth Bronze Valves. Extra-thick walls and rugged wrench hexes constitute a high safety factor and prevent distortion while the valve is being installed in the pipeline. Extra-deep pipe threads are accurately machined to eliminate leakage. Walworth Bronze Valves are also available with flanged, silver-brazed or soldered ends in certain sizes and types.

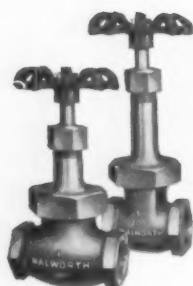


EXTRA-LARGE STEMS with extra-long, extra-deep threads prolong valve life, protect against wear and distortion and provide tight positive shutoff. The surface of the stem is machined to a glass-like finish for minimum handwheel effort and to preserve the packing which results in fewer inspections and less maintenance. The top of the stem is tapered and squared to hold the handwheel securely.



TO REDUCE WIRE DRAWING to a minimum, certain types of bronze globe valves have stainless-steel plug-type seats and discs heat-treated to a nominal hardness of 500 Brinell, adding years to valve life even in severe services. These valves can be tightly closed on sand, grit or pipe scale without damage. Seats and discs are machined simultaneously, assuring perfect mating.

There is a Walworth Bronze Gate, Globe, Angle or Check Valve for every service. Walworth is continually developing new valve types and materials, including plastics, to keep pace with the growing variety and severity of services in modern industry. For full information, see your Walworth Distributor or write: Walworth, 60 East 42nd Street, New York 17, N.Y.



WALWORTH

Bronze Valves and Fittings



you can reprocess the "broke"...
...but the time is lost forever


Back to the beaters goes the "broke" caused by a break in the paper web, and nothing is lost . . . nothing but TIME, that precious element of production. The time spent in carrying the paper making process to the point at which the break occurred, the time spent in clearing the machine, in cutting another tail and in correcting the cause of the break is lost . . . forever. The only cure for lost time is prevention, and a step in the right direction is standardization on Stowe-Woodward rubber covered rolls, developed and built by experts in increasing production and reducing paper machine down-time.

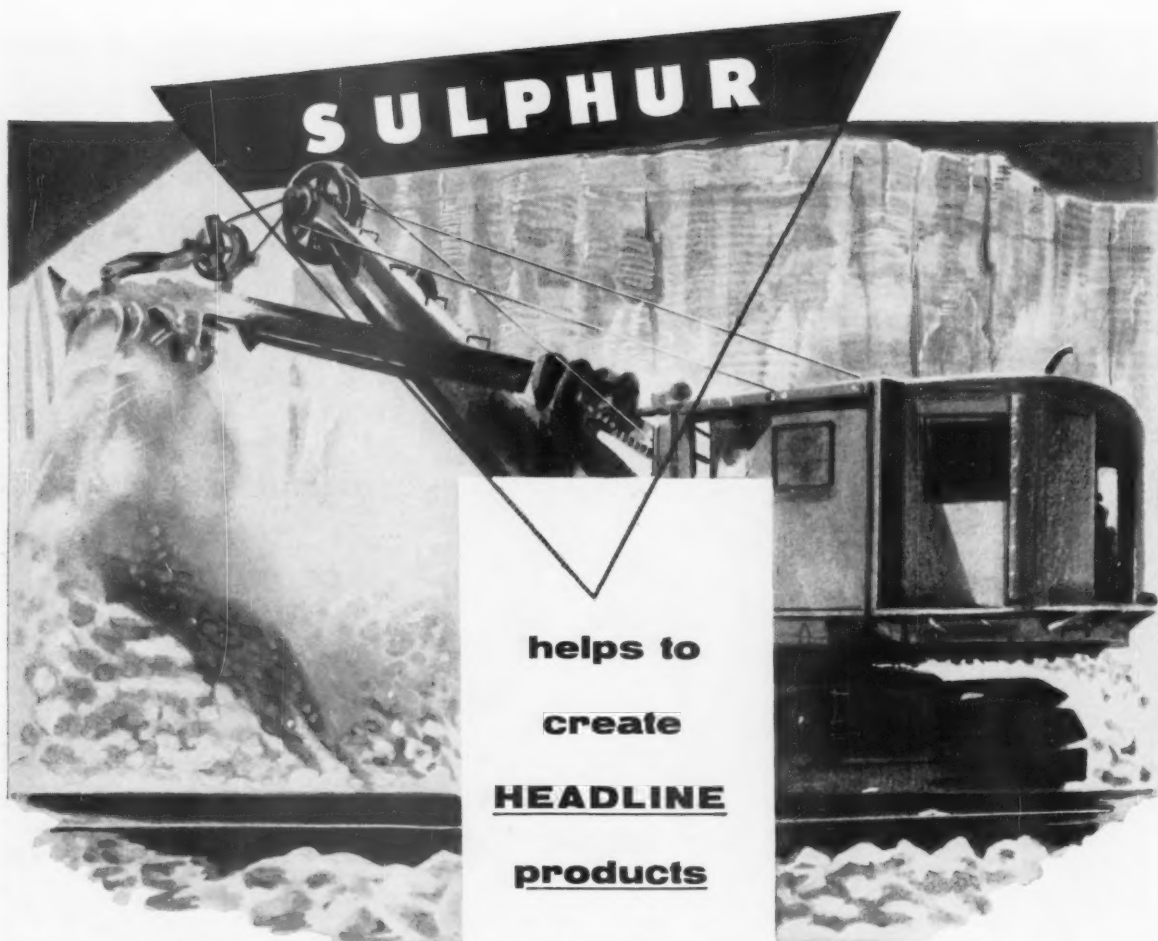
Complete roll processing plants at:
 NEWTON UPPER FALLS, MASS.
 NEENAH, WISCONSIN
 GRIFFIN, GEORGIA

STOWE-WOODWARD, Inc.

Craftsmen in rubber

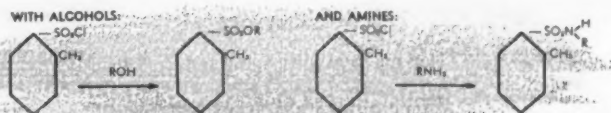
RUBBER ROLLS with a REPUTATION





o*-TOLUENESULFONYL CHLORIDE

TYPICAL REACTIONS . . .



Industry has a new working tool in *o*-Toluenesulfonyl Chloride. This 98% pure ortho isomer can be used in building molecules for use in a wide variety of new products, from dyestuffs to pharmaceuticals; from plasticizers to herbicides. It is even possible that it is now being used in products you are making or have recently acquired.

From the chemical name of *o*-Toluenesulfonyl Chloride it is obvious that sulphur is a component of this compound...added evidence of the important role Sulphur plays in our industrial economy.

**Product of Monsanto Chemical Company*

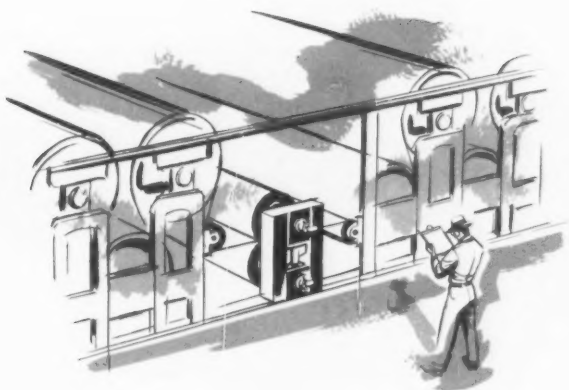


Texas Gulf Sulphur Co.

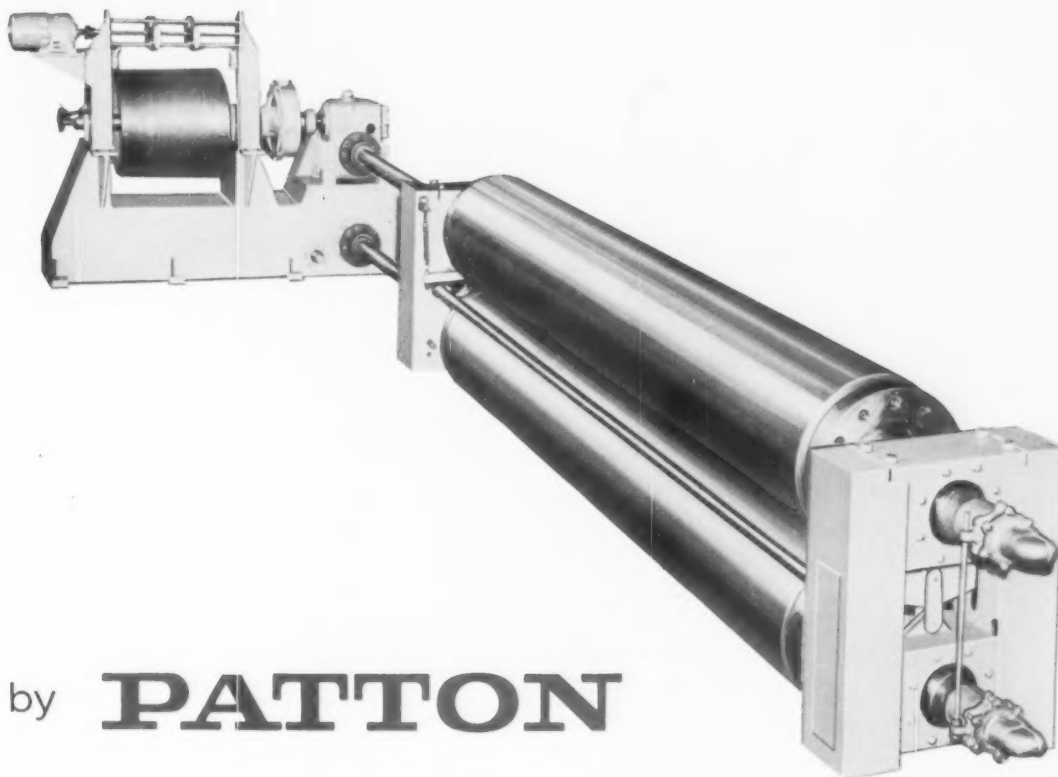
75 East 45th Street, New York 17, N. Y.
811 Rusk Avenue, Houston 2, Texas

Sulphur Producing Units

- Newgulf, Texas
- Moss Bluff, Texas
- Spindletop, Texas
- Worland, Wyoming



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ANOTHER EXAMPLE OF HERCULES LEADERSHIP

MOST MILLS SPECIFY PEXOL[®] SIZE WHEN THEY USE HIGH BRIGHTNESS PULPS



For many years Pexol, Hercules fortified rosin size, has demonstrated outstanding effectiveness and economy in sizing highly bleached pulps of all types.

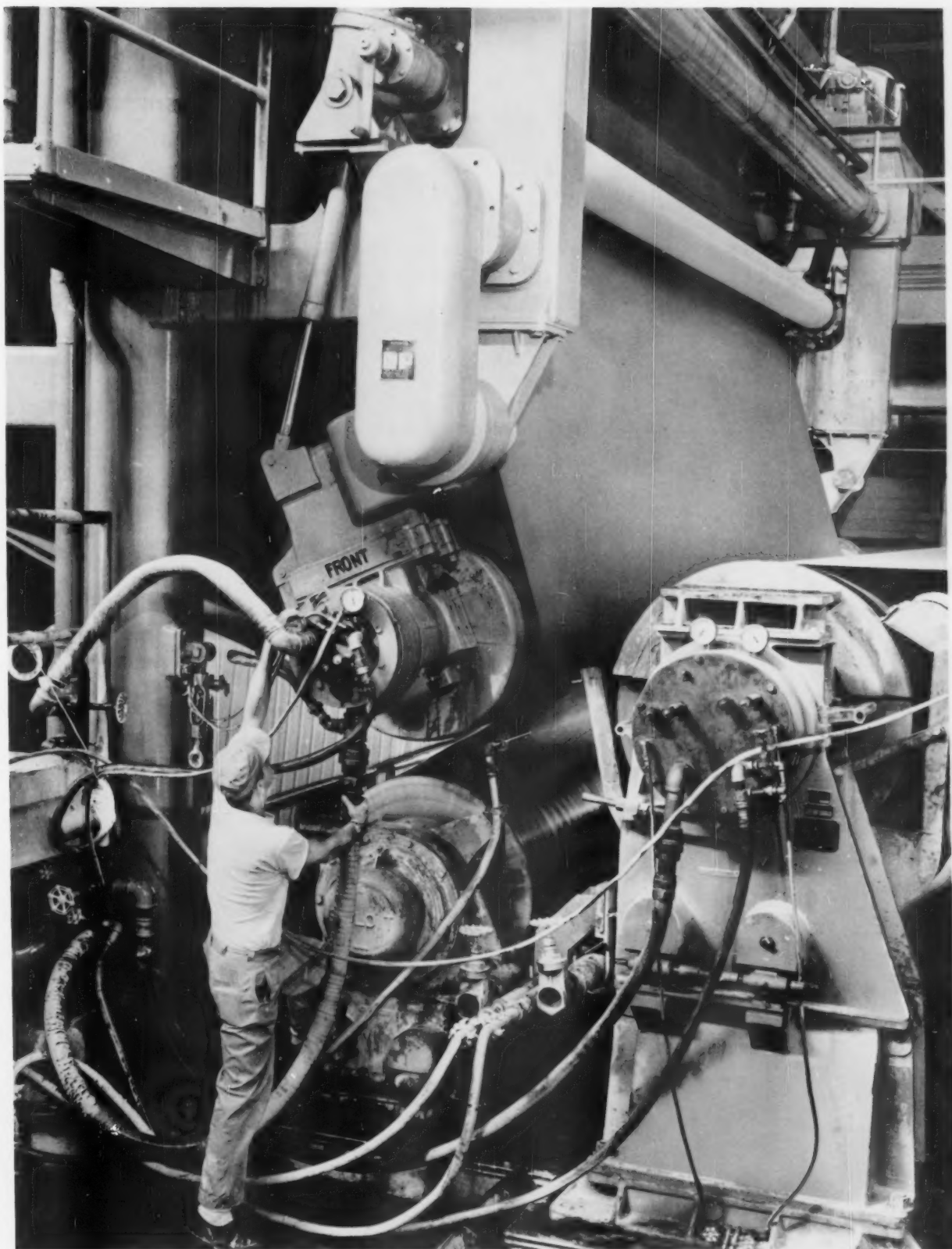
Pexol's superiority has been particularly apparent in sizing high brightness chlorine dioxide bleached kraft pulp. Today, most mills using this pulp insist upon Pexol for overall sizing efficiency and economy.

Pexol permits reductions in size furnish as high as 30 to 50% while maintaining sizing specifications. Available in both paste and dry forms, and in numerous types, Pexol can meet practically any mill requirement. A trained Hercules representative will be glad to work with you in selecting the best grade of Pexol for your needs.

Paper Makers Chemical Department
HERCULES POWDER COMPANY
INCORPORATED
900 Market Street, Wilmington 99, Delaware

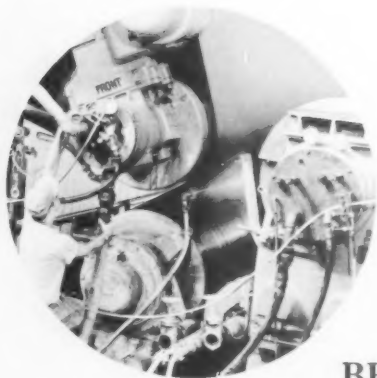
HERCULES

PP57-4



BOWATERS SOUTHERN PAPER CORPORATION. PHOTO BY J. W. MILLER

Beloit Suction Pick-up A milestone in modern papermaking, the Beloit Suction Pick-up arrangement has eliminated the open couch draw, enabling the sheet to be transferred from the Fourdrinier wire to the press section positively, at high speeds. For further details, please turn the page.



BELOIT SUCTION PICK-UP

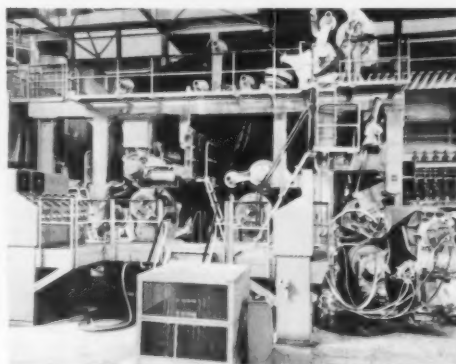
*...a milestone in modern papermaking
...materially increases efficiency, trim, test*

Today's wide machines operating at speeds beyond 2000 feet per minute offer dramatic proof of the rapid evolution of paper-making machinery. One of the developments that has made this possible is the Beloit Suction Pick-up.*

Beloit installed one of its earliest full-size suction pick-up arrangements in 1932 on a 175" machine. From this, Beloit engineers developed the modern suction pick-up in widespread use today.

This patented arrangement eliminates the open couch draw, provides a safe transfer of the sheet at high speeds, and cuts wet-end breaks to a minimum. Sheet handling at the wet-end is simplified. The sheet is picked off the wire by a suction roll and is carried automatically to the first open

draw in the press section. The suction pick-up is one of many Beloit design features which provide faster, more efficient, trouble-free operation—the result of an extensive product development program to provide the papermaker with the most modern tools of production.



*United States and Foreign Patents and Patents Pending

your partner in papermaking **BELOIT**

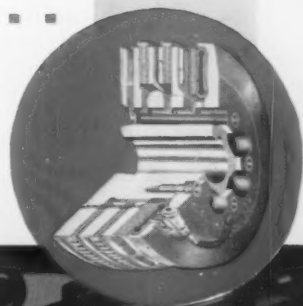
PAPER MACHINERY



WHEN YOU BUY BELOIT...YOU BUY MORE THAN A MACHINE

**"MORE EFFICIENT OPERATION . . .
LOW COST INSTALLATION . . .
LESS MAINTENANCE . . ."**

States Engineering Dept., R. Hoe & Co., Inc., New York

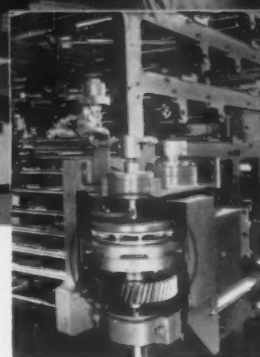


Pictured above is a huge new multi-color Rotagravure Printing Press built by R. Hoe and Company on which WICHITA Clutches are used. Previously, electro-magnetic clutches were used requiring explosive-proof housings, special wiring, etc.

When clutch changes were planned by Hoe Engineers, WICHITA was specified, because of their "MORE EFFICIENT OPERATION, LOW COST INSTALLATION, AND LESS MAINTENANCE." This is one more example of how and why WICHITA Clutches are being specified and used on modern equipment.

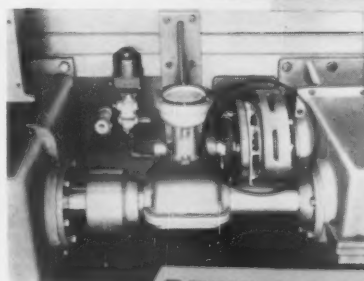
Far Right: This Wichita Clutch is mounted on a vertical shaft in the drive for the pulling rollers at the folder on the Hoe Press.

Near Right: Here a Wichita Clutch is shown on the steam drum drive of the Hoe Press.



For starting, stopping, or controlling tension, check with your nearest WICHITA engineer!

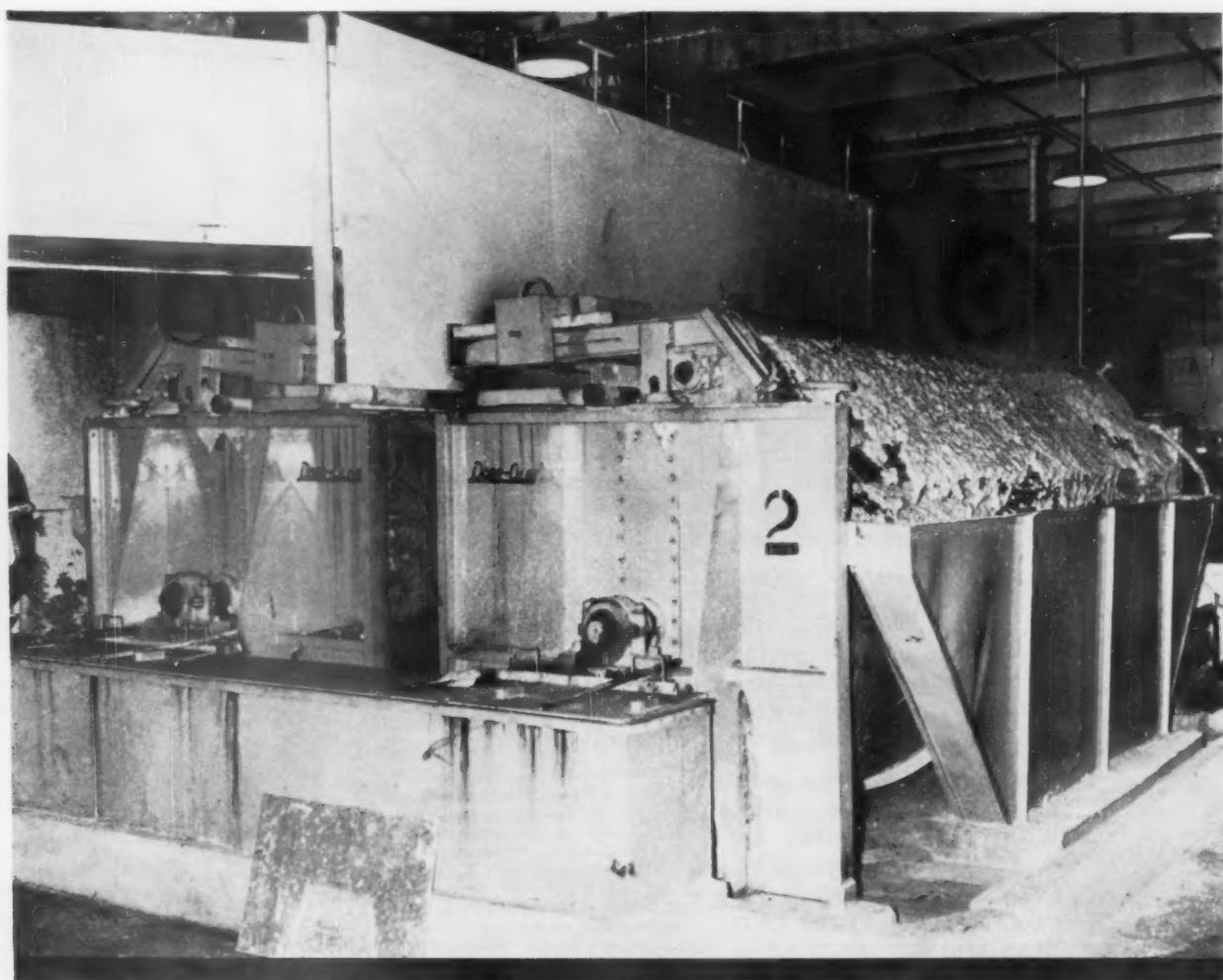
Brehm-Lahner, Inc., Detroit, Mich.
L. H. Fremont, Cincinnati, Ohio
W. G. Kerr Company, Pittsburgh, Pa.
Smith-Keser & Co. (Main Office), Avon, Conn.
Smith-Keser & Co., Philadelphia 44, Pa.
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Frank W. Yarline Co., Chicago, Ill.
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Dominion Power Press Equipment Ltd.,
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Allied Transmission Equipment Co.,
Kansas City 8, Missouri
R. E. Kunz, Seattle, Wash.
W. G. Ballantyne & Co., Portland, Ore.
Norman Williams, Houston, Texas



Two Oliver Gravity Deckers double stock capacity and reduce white water consistency



... at Diamond Match Company
Ogdensburg, New York



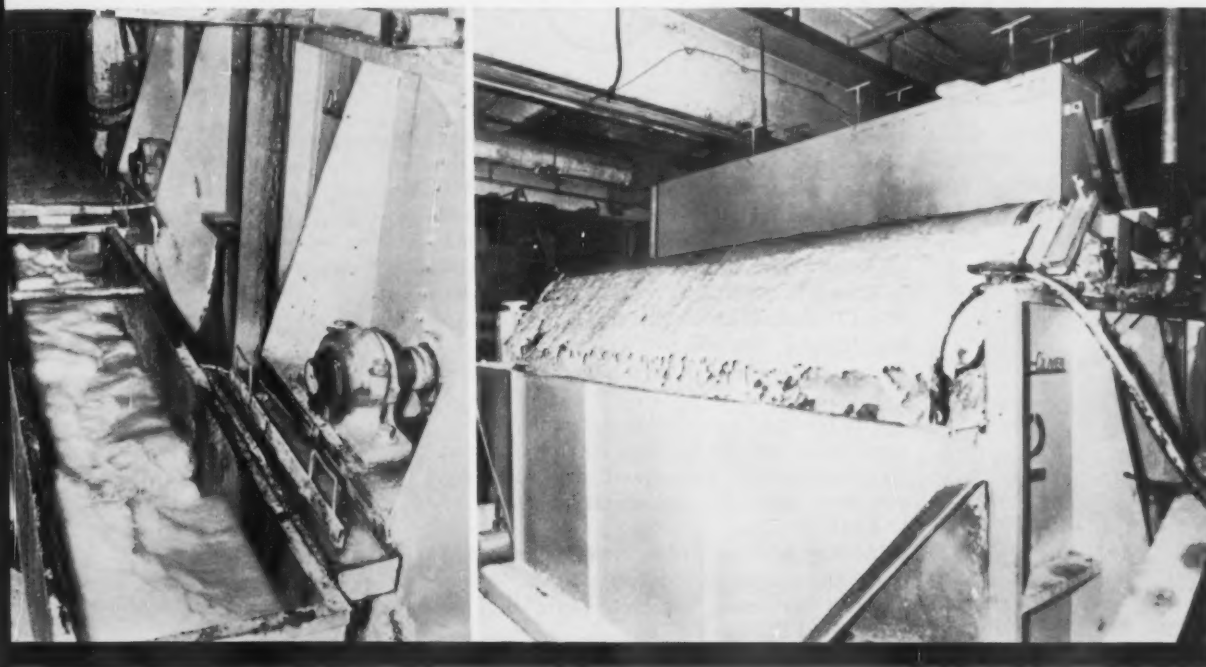
View of two Oliver Gravity Deckers, each 4' in dia. x 13' face at Diamond Match Company, Ogdensburg, New York.

Prior to June 1957, the Diamond Match Company at Ogdensburg, New York, was utilizing five units for deckering approximately 80 TPD of conventional softwood groundwood. In May 1957, one of the two Oliver Gravity Deckers shown in the above photograph replaced all five of the smaller existing units and reduced the white water consistency. When both of the new Deckers are operating at full capacity the stock output in this totally closed system can be increased to 140 TPD.

Evaluation tests on the groundwood white water were conducted by the Diamond Match Company before and after the two Oliver Deckers were installed. The comparative results revealed the new Decker system had not only reduced the white water consistency

from .093 to .082, but it also reduced the percentage of intermediate fibers (30, 50, & 100 mesh retainings) from 26.4% to 12.2%. These tests further revealed that the long fibers (14 mesh retained) were eliminated from the white water.

The new Oliver Decker installation at the Diamond Match Company is an excellent example of Dorr-Oliver's ability to provide equipment to fit the job. For more information on the complete line of Dorr-Oliver equipment for the pulp and paper industry, write Dorr-Oliver Incorporated, Barry Place, Stamford, Connecticut. Or better still let us send an engineer to discuss your equipment problem with you, placing at your disposal 35 years of D-O's filtration experience. No obligation, of course.



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Here is the first information published on the mechanical properties after various heat treatments, of cast alloy 17-4 PH. This true heat and corrosion resistant stainless steel can be machined, in its relatively soft as-cast condition, and hardened to 400 BHN at low temperatures. 17-4 PH also has the ability, through heat treating, of being adaptable to a wide range of applications requiring high strength, ductility and impact resistance.

This report of a continuing study contains pictures, tables and graphs, showing such things as the microstructure before and after annealing and the comparative mechanical properties of 17-4 PH.

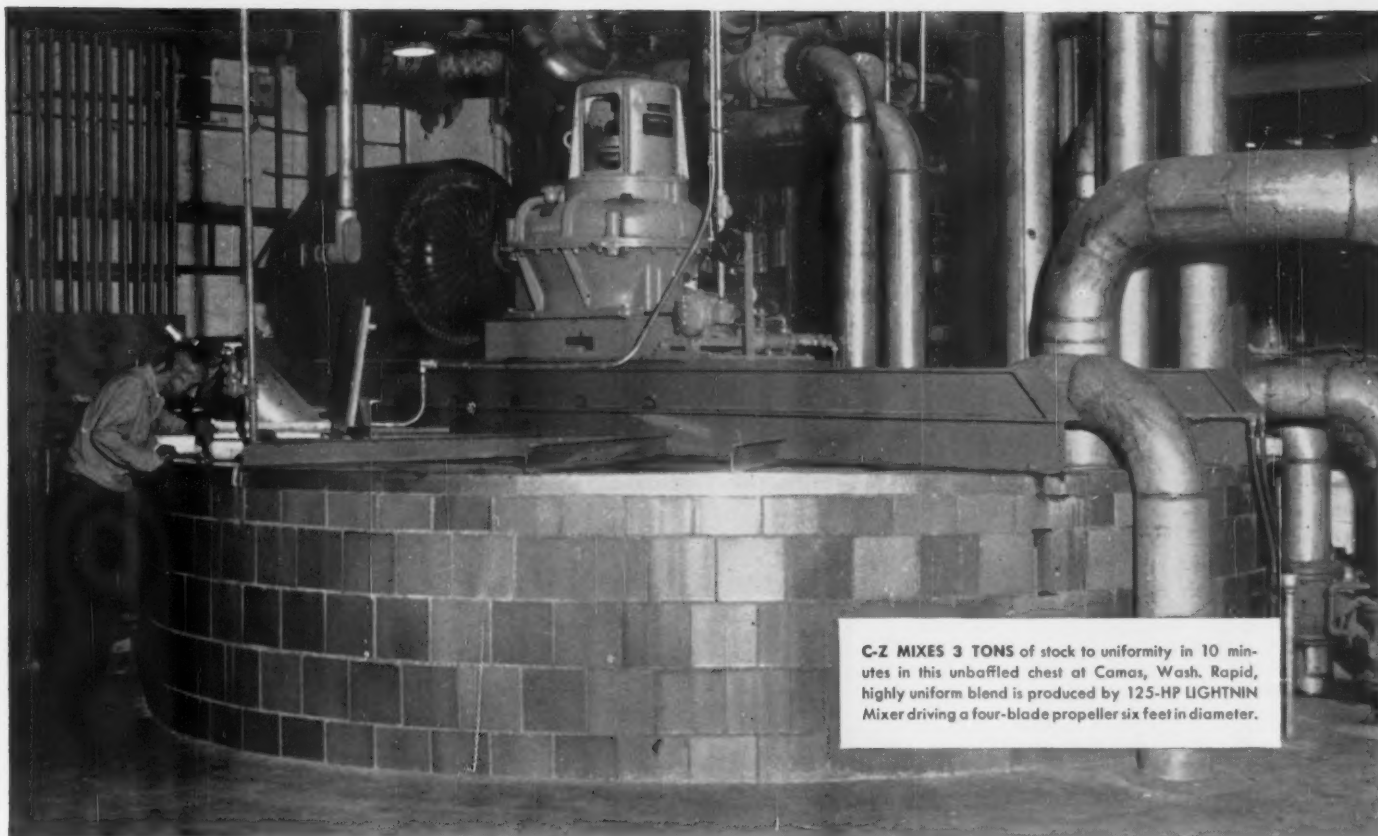
Industry as diversified as aircraft parts, food processing equipment and chemical pump manufacturers are among the enthusiastic users of Alloy 17-4 PH.

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New mixing unit puts accuracy into Crown Zellerbach stock chests

How can you minimize the effect of changes in stock consistency?

Here's how Crown Zellerbach does it, with a 125-horsepower LIGHTNIN Mixer, on No. 9 Mixing Chest at the company's large Camas, Wash., mill.

Mixes 3 tons in 10 minutes

This chest handles 25 batches or 75 tons of 3½-4% stock per 24-hour day. Furnish usually consists of ground-wood and special bleached stocks of varying consistencies. Cycle allows 30 minutes for filling the chest, only 10

minutes for blending, 10 minutes for pumping out to the first beater chest.

In 10 minutes or less, the LIGHTNIN Mixer equalizes three tons of stock and keeps it equalized. During blending, *uniformity of stock varies less than 0.2% between any two points in the chest at any time.*

No guesswork

This high uniformity eliminates "ups and downs" in consistency of stock leaving the chest. It insures most uniform possible feed to the beater system. A consistency regulator is used to

control finished batch before stock is discharged to chest.

Measurable results

Want to get performance like this out of your chests? Put LIGHTNIN Mixers into them. Get results you can measure—in terms of uniform stock, shorter blending time, tighter control of color, less machine downtime.

For the facts on stock-chest mixing that does what you want it to do, call in your LIGHTNIN Mixer representative. You'll find his name in Thomas' Register. Or write us direct.

Lightnin® Mixers

MIXCO fluid mixing specialists

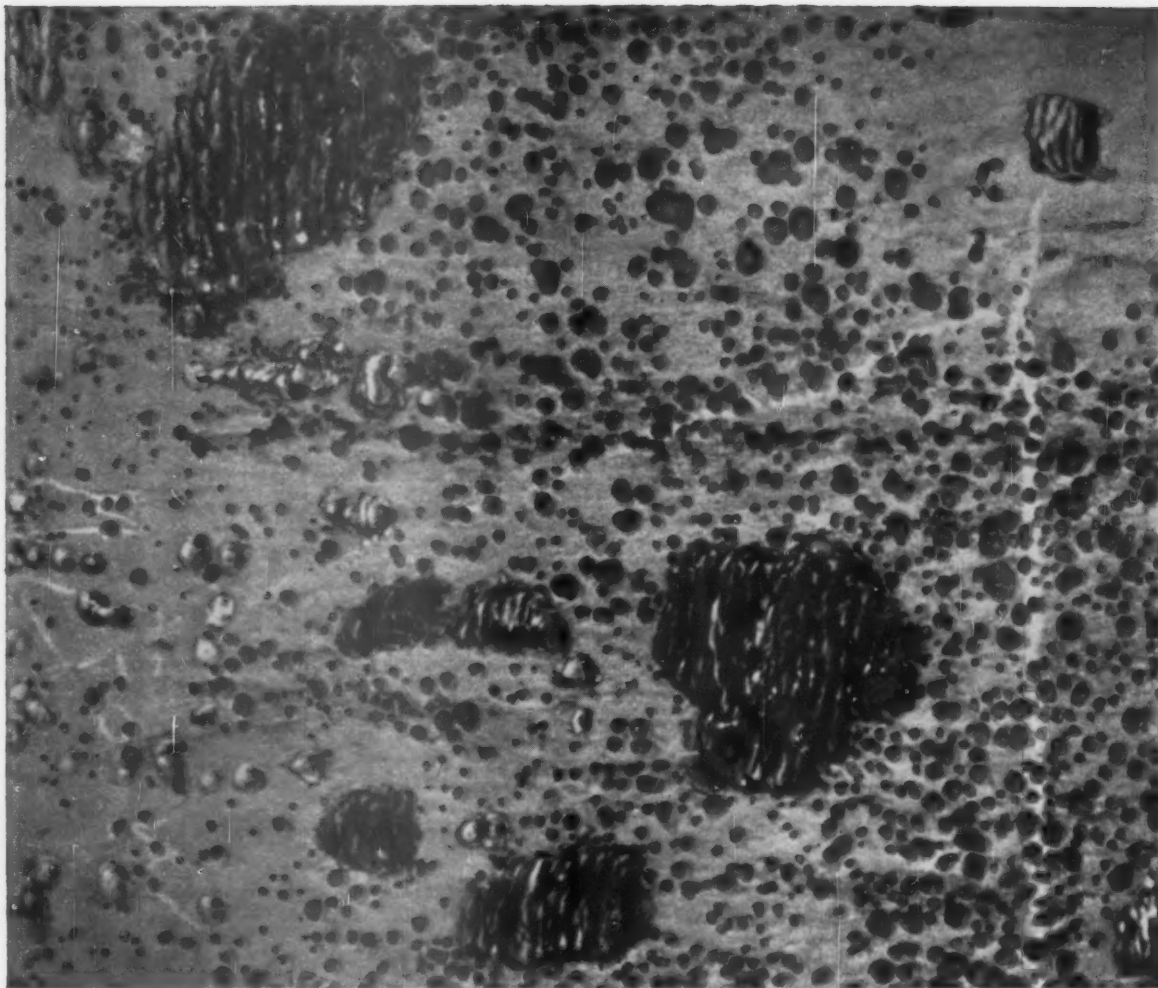
FOR LATEST MIXING INFORMATION and full description of LIGHTNIN Mixers, send for these helpful bulletins:

- | | | |
|--|--|--|
| <input type="checkbox"/> B-102 Top or bottom entering; turbine, paddle, and propeller types: 1 to 500 HP | <input type="checkbox"/> B-104 Side entering: 1 to 25 HP | <input type="checkbox"/> B-111 Quick-change rotary mechanical seals for pressure and vacuum mixing |
| <input type="checkbox"/> B-103 Top entering; propeller types: ¼ to 3 HP | <input type="checkbox"/> B-112 Laboratory and small-batch production types | <input type="checkbox"/> Paper stock mixing data sheet for figuring mixer requirements |
| <input type="checkbox"/> B-108 Portable: ½ to 3 HP | <input type="checkbox"/> B-109 Condensed catalog showing all types | |

Check, clip, and mail with your name, title, company address to:
MIXING EQUIPMENT Co., Inc., 141-k Mt. Read Blvd., Rochester 11, N.Y.
 In Canada: Greey Mixing Equipment, Ltd., Toronto 10, Ont.

IN BEATER CHEST or machine chest, you can bring stock to full uniformity in as little as 6 minutes with a LIGHTNIN. You can get uniform color dispersion in as little as 2 to 3 minutes.





INSIDE OF DIGESTER shows patches of Crucible 316 weld metal "completely intact and in its original state." All other materials tested disappeared.

Crucible 316 Stainless overlays show no corrosion after 6 years in pulp digester

Here's picture proof that Crucible 316 Stainless overlays offer long-lasting protection to your digesters. Under the impact of a 6-year test which destroyed all other materials tried, Crucible 316 remained "completely intact and in its original state."

In dollars and cents, this outstanding resistance to corrosion means this: You can save $\frac{2}{3}$ the cost of replacement if you overlay with Crucible Stainless. And additional overlay metal can be applied locally to make the digester last even longer.

When your digester interiors are beginning to get

eaten away by erosion or corrosion, and when replacement is being considered, stop to consider the economy of a Crucible 316 overlay.

For any other problem concerning rust, erosion or corrosion — anywhere in your plant — you stand a good chance of finding the most economical solution in Crucible Stainless. For more information, write for "Making the Most of Stainless Steels in the Pulp and Paper Industry" to Crucible Steel Company of America, The Oliver Building, Mellon Square, Pittsburgh 22, Pa.

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Crucible Steel Company of America

Canadian Distributor — Railway & Power Engineering Corp., Ltd.



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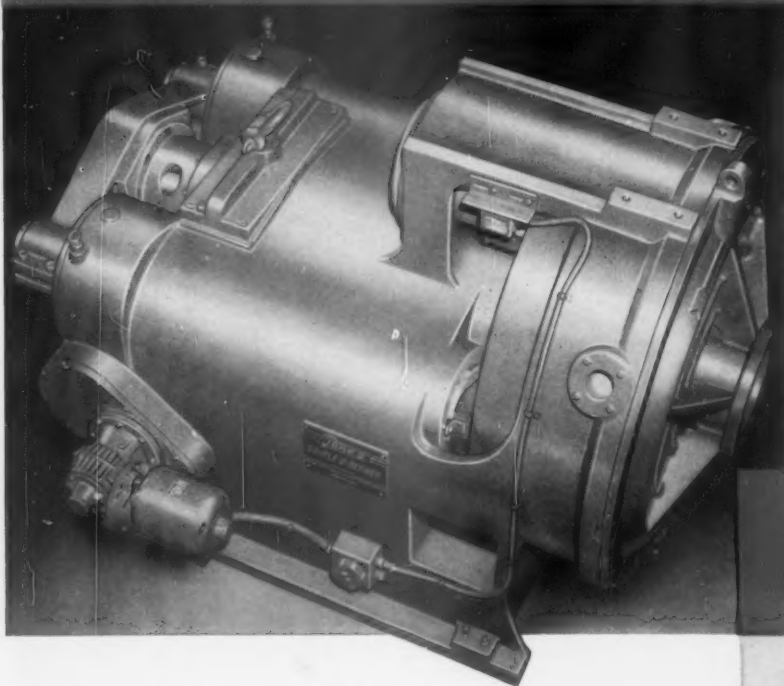
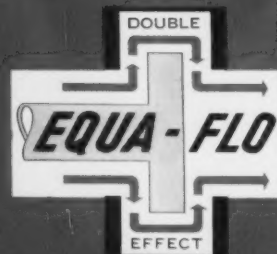
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**DOUBLE the refining area — DOUBLE the work
of conventional refiners...**

E.D. Jones

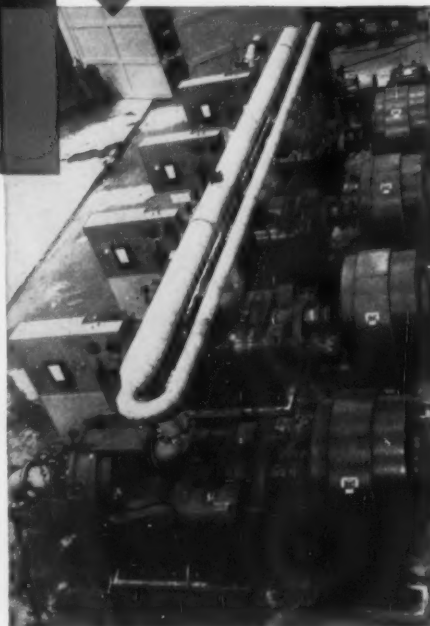
DOUBLE-D

WITH



The clean, sturdy compactness of the Double-D requires a minimum of floor-space: it can be located almost anywhere.

Four 42" Double-D's in line serve the big new Kraft machine at International Paper's Mobile, Ala., plant. Note simplicity of piping — no special fluming or flow-boxes needed.



Not only does the amazing Jones Double-D refiner do twice the work of conventional refiners — not only does it provide two stages of refining in one pass through the machine — not only can it, if need be, defiber in the first stage and thoroughly refine in the second — but mills where it has been tried and proved for over two years report that it produces stock of equal or better quality than similar machines, even on hard-to-work stock.

Fully-pressurized, economical of floor-space, horsepower and maintenance, the Double-D is very clean in its dealing with stock; and will give any degree of refining from hydration to severe cutting. Has many other advantages. Ask your Jones representatives, or write today for Bulletin EDJ 1083.

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Maybe you should
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Formaldehyde

Formaldehyde

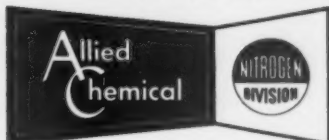
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Allied urea,
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DEPT. CUF2-25-3

If you make wet-strength or coating resins based on urea or formaldehyde, your processing costs undoubtedly are affected by the form in which you use these materials. Allied Chemical can supply urea or formaldehyde or U.F. Concentrate-85—a combination of both in liquid form that may dramatically cut your materials handling and processing costs. Why not look into the Allied story? Write or phone for technical literature on Allied urea, formaldehyde and U.F. Concentrate-85. Or let an Allied technical specialist look over your operations. He may be able to suggest simple modifications that will reduce your resin-making costs.



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PULP & PAPER — October 1957

Ethanolamines • Ethylene Oxide • Ethylene Glycols • Urea • Formaldehyde • U. F. Concentrate-85 • Anhydrous Ammonia • Ammonia Liquor • Ammonium Sulfate • Sodium Nitrate • Methanol • Nitrogen Solutions • Nitrogen Tetroxide • Fertilizers & Feed Supplements

THE NEWEST DEVELOPMENT IN CHEMICAL RECOVERY PRACTICE

The Large Recovery Unit (over 500 Tons)

Just a few years ago, the consensus was that chemical recovery units had reached their maximum size—350 to 400 tons. Some thought that the numerous problems peculiar to burning black liquor almost automatically put an end to the trend toward larger units.

C-E engineers, well aware of the fact that larger recovery units mean less investment and operating costs per unit of capacity, turned their concerted attention to the problem of size. In quick succession they developed the panel type superheater, the panel type water screen, the decanting furnace hearth and a system of tangential secondary air admission. By combining these developments with a baffless boiler and modern retractable soot blowers, there evolved a recovery unit design that removed the limitation of size.

Thus, in October, 1954, Combustion received its first order for a recovery unit to handle 1,500,000 pounds of dry solids per 24 hours. Fifteen days later, a different customer ordered a C-E unit to handle 1,610,000 pounds of dry solids. Thirty months later, in March, 1957, C-E received a duplicate order from the first customer and—again 15 days later—received a duplicate order from the second customer. In the interim, five other leading pulp and paper

companies ordered large C-E recovery units, the sizes of which are listed below. Largest of these is a unit with a capacity of 2,000,000 pounds of dry solids, by far the biggest recovery unit ever ordered. Today, three of the nine units are in service. In each case, their performance equals or exceeds expectations.

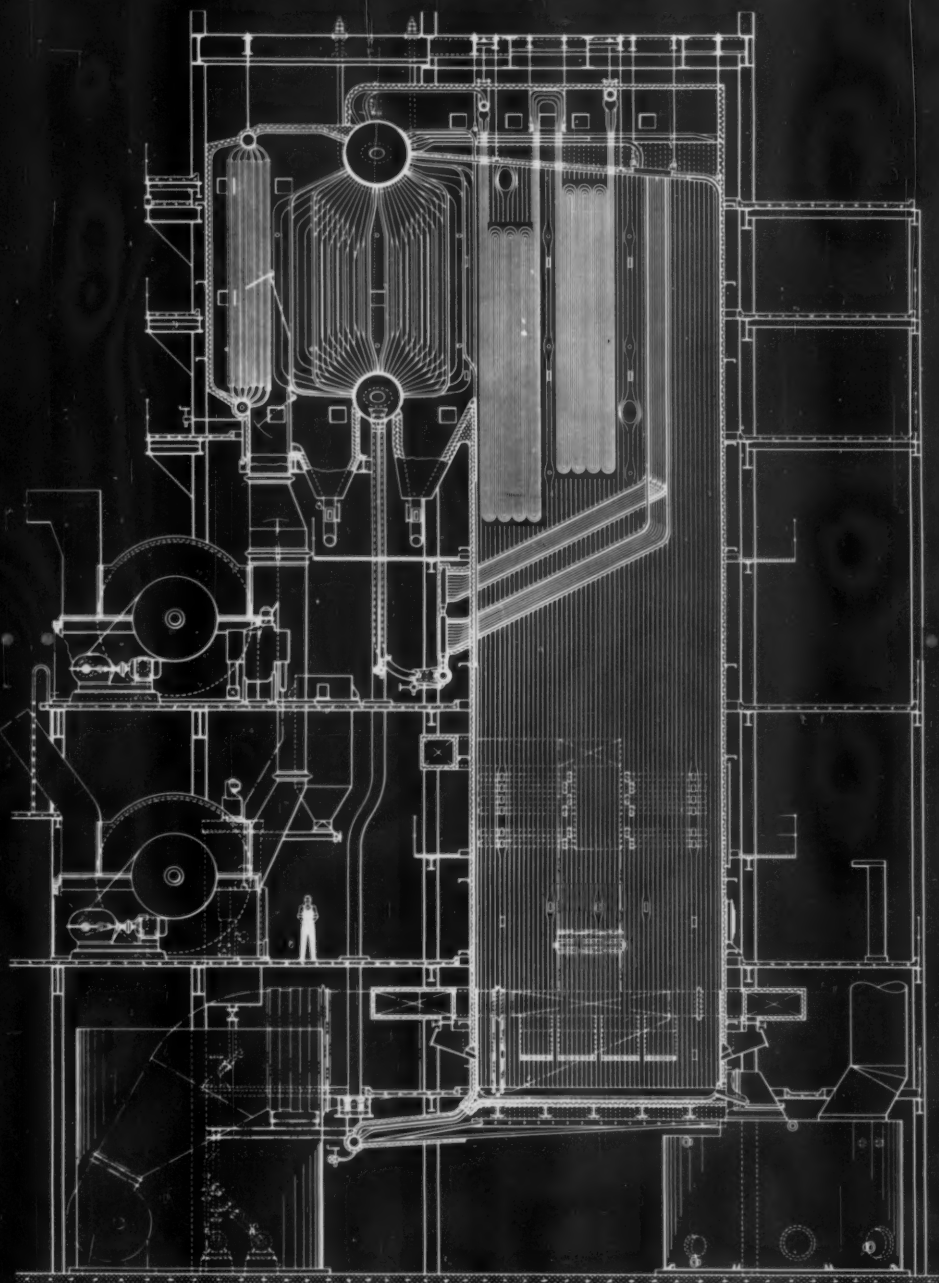
"Breaking the size barrier" represents an achievement made possible by Combustion's continuing efforts to make ever-better products. As to acceptance—the record speaks for itself.

C-109

C-E Contracts for Large Recovery Units (500 Tons and above)

Name	#Dry Solids/24 Hrs.
Enso Gutzeit OY.....	1,500,000*
Union Bag & Paper Corp.....	1,610,000*
Halifax Paper Co., Inc.....	1,500,000*
B. C. Forest Products Ltd.....	1,600,000
Longview Fibre Co.....	2,000,000
Crossett Paper Mills.....	1,500,000
International Paper Co.....	1,500,000
Enso Gutzeit OY.....	1,500,000
Union Bag & Paper Co.....	1,610,000

*In service



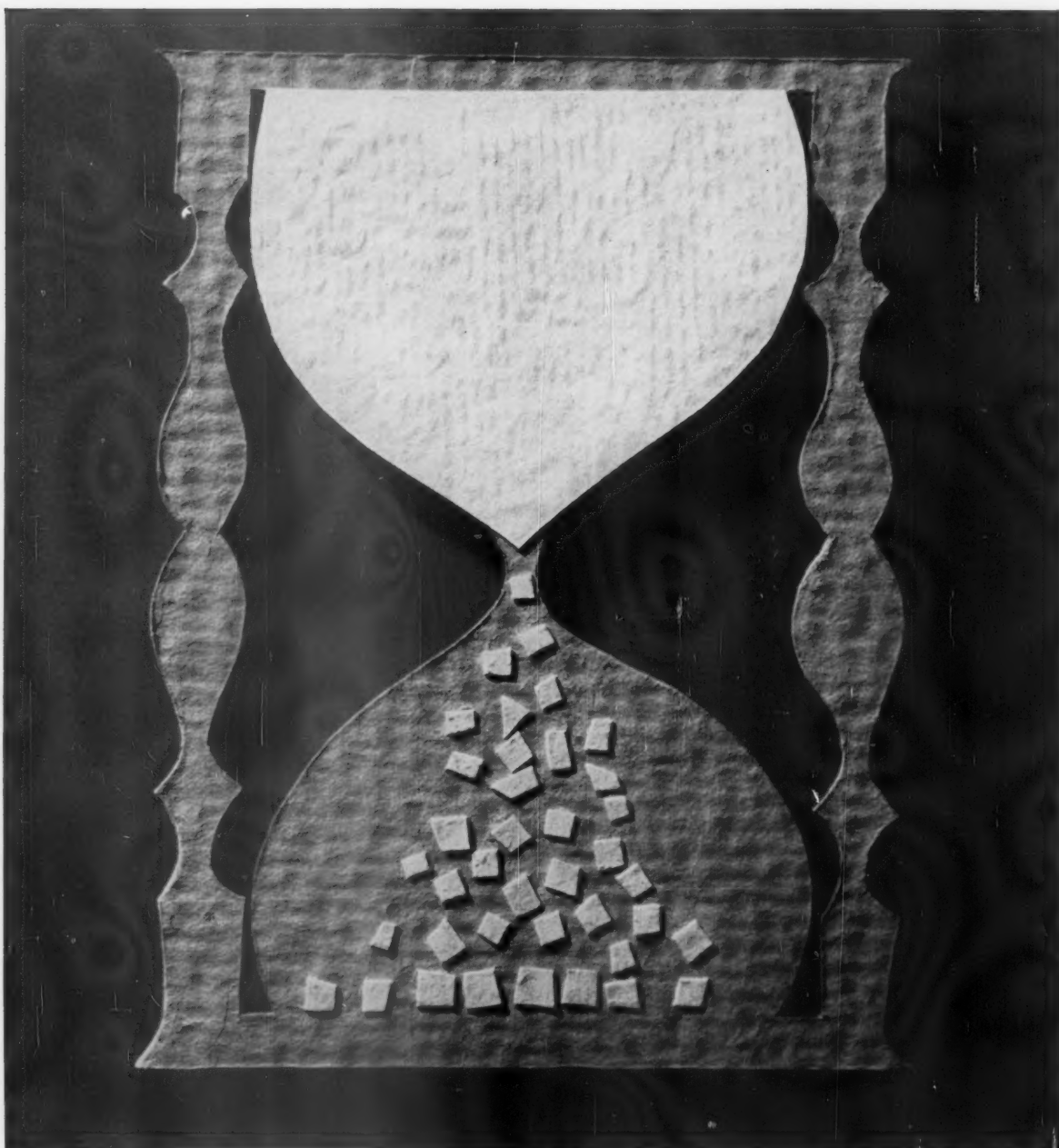
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The pulps used to make this illustration are MacMillan & Bloedel Unbleached Sulphate (Kraft) and Mead Bleached Soda Pulp

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Constant attention to service is just one of the reasons why Mead Pulp Sales, Inc. has been able to serve so many clients so well for more than 35 years.

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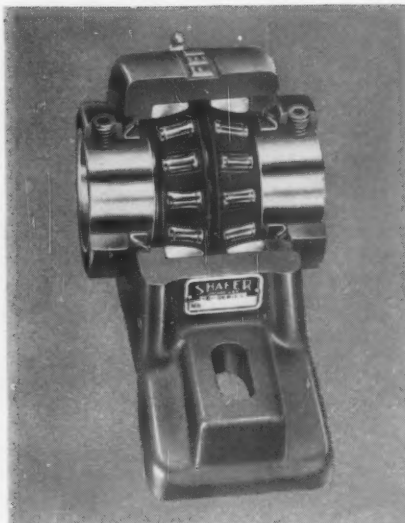
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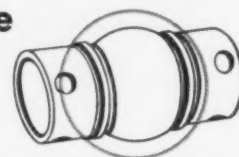
which
bearing
is best?



	Ball	Tapered Roller	Shafer
Low Friction Loss	✓		✓
Self-Alignment	✓		✓
High Radial Load Capacity		✓	✓
High Thrust Load Capacity		✓	✓
High Shock Load Reserve		✓	✓
Long Life		✓	✓
Fast, Positive Adjustment			✓
Lowest First Cost	✓		
Lowest Over-All Cost			✓

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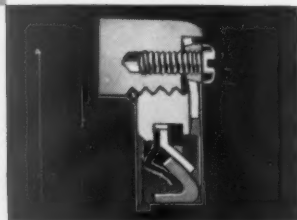


Inner race is segment of a ball.



Roller presents matched curve surface.

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"Z" seal keeps dirt out ...grease in

Shafer exclusive—"Z" seal is an all-metal, non-rotating, true self-aligning seal that provides positive sealing under severe conditions.



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Scriptite 54 water-based coatings, applied on or off machine, give specialty packaging papers excellent water and wet rub resistance, good folding endurance. Shelf and wall papers can be given high gloss, exceptional printability, superior ink absorption and varnish hold-

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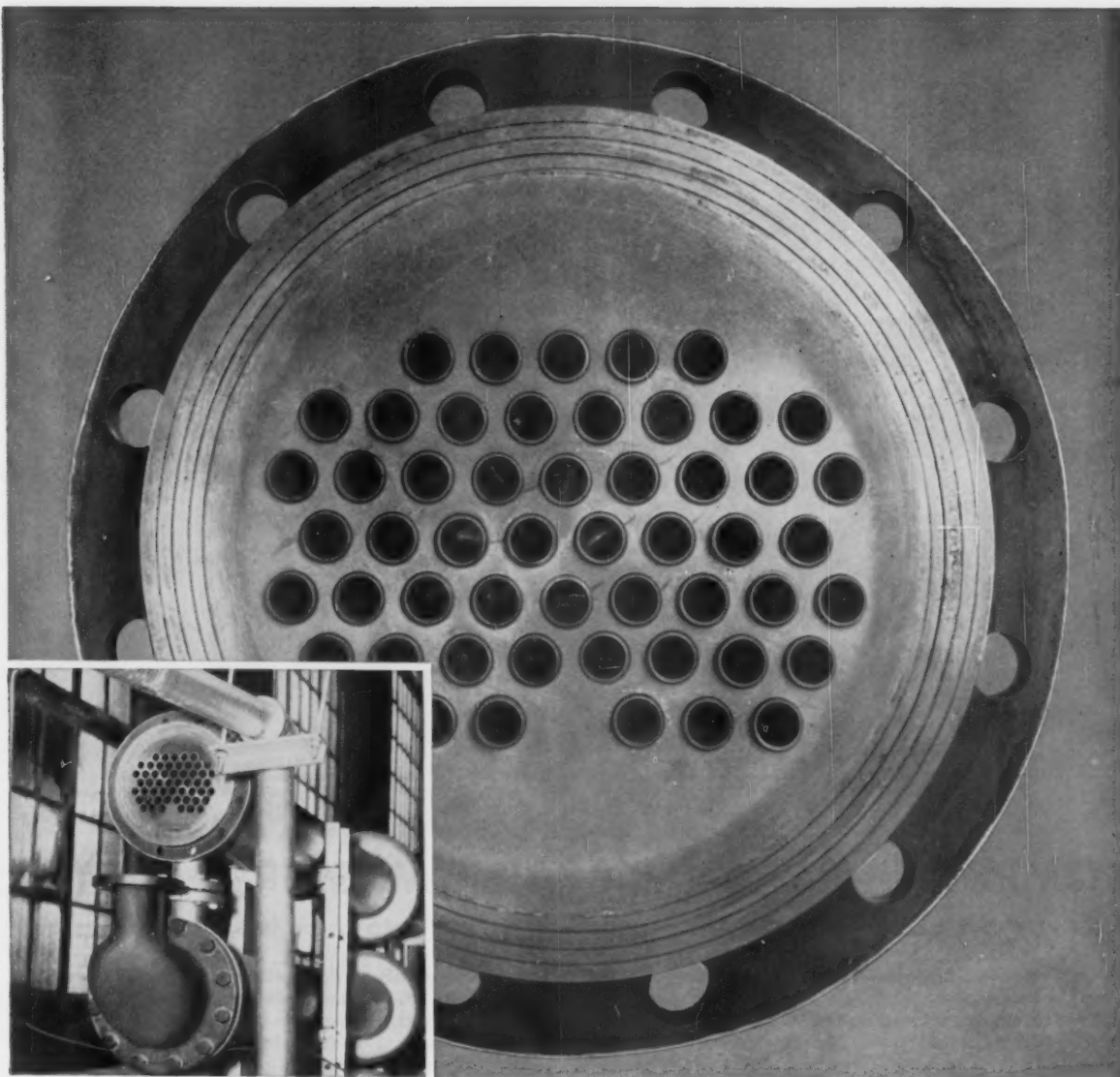
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**No corrosion . . . no pitting after 4 years of handling
hot SO₂ gases and vapors**

- The smooth, clean surfaces of the Carpenter 7Mo Stainless tubing in this 3-pass Relief Gas Cooler tell the whole story. Still like new after 4 years of carrying 8% SO₂ gases and vapors from the top of a sulphite digester at temperatures in excess of 200°F. No maintenance. No replacement worries. No costly downtime.

If you have a tough corrosion problem involving stress corrosion cracking and pitting, see what Carpenter 7Mo Stainless Tubing and Pipe can do to solve it for good. Call your Carpenter Distributor for service that satisfies.

MEMBER	 The Carpenter Steel Company Alloy Tube Division, Union, N. J.
<small>Export Dept.: The Carpenter Steel Co., Port Washington, N. Y.—"CARSTEELCO"</small>	
 	
Stainless Tubing & Pipe	



F. J. Tompkins, Chief Design Engineer (right), Bernard Anik, Mechanical Engineer (left rear), Singmaster & Breyer, N. Y. C. Foreground, Michael De Piano, Cooper Alloy Corp.

TOMPKINS and ANIK of SINGMASTER & BREYER tell why they build Cooper Alloy stainless valves into their basic plant designs

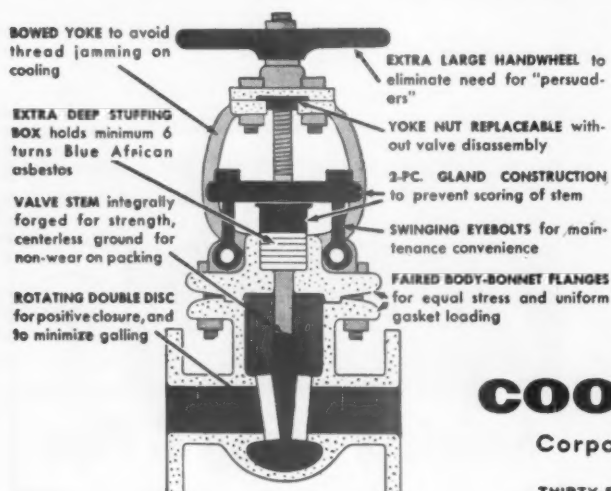
Q. Gentlemen, precisely why do you buy Cooper Alloy valves?

FJT—With me, dependability is the main reason. My major concern is overall plant design, and frankly I don't have time to worry about every equipment detail. As specialists in designing and

building "first-of-its-kind" processing plants, we need valves we can count on, and can "build in" as part of our original design. Cooper Alloy valves, we've found, fill that bill.

BA—From my point of view as a mechanical engineer, it's the Cooper Alloy valve

design that appeals to me. It has extra features, like the extra-large handwheel, unique square compression of packing, bowed yoke, integrally forged stem, and others, all of which make for less maintenance and longer, more economical valve life.



A VALVE DESIGNED FOR STAINLESS!

The Cooper Alloy valve is not an adaptation of earlier brass and iron patterns. Cooper Alloy, with over 35 years of experience in handling stainless steel, created a valve *designed to be cast in stainless!* Check the Special Design Features shown at left.

As the little CA man below is saying: "You can tell a Cooper Alloy Valve as far as you can see it!" Write today for your copy of our folder "Design Factors In Stainless Steel Valves." The Cooper Alloy distributor near you will be glad to show you the complete line of Cooper Alloy valves and fittings, and their advantages. He can serve you promptly from local stocks.

COOPER ALLOY

Corporation • Hillside, New Jersey
VALVE & FITTING DIVISION

THIRTY-FIVE YEARS OF STAINLESS STEEL PIONEERING

E·Z·PULP



NEW DEMOPOLIS MILL NOW PRODUCING MARKET PULP

This mill is located on the Tombigbee River with year-round navigation available to Mobile and other ports. Two major railroad systems provide dependable service to all parts of the country.

The latest design of process and equipment permit close control by skilled craftsmen to produce both softwood and hardwood bleached sulphate pulps. Ample water and exceptionally fine timber reserves provide a dependable source for a uniform quality pulp.

E-Z PULP will meet your most exacting requirements for color, cleanliness, opacity and strength.

For full information write E-Z PULP SALES DIVISION, Department E, Box 491, Tuscaloosa, Alabama.

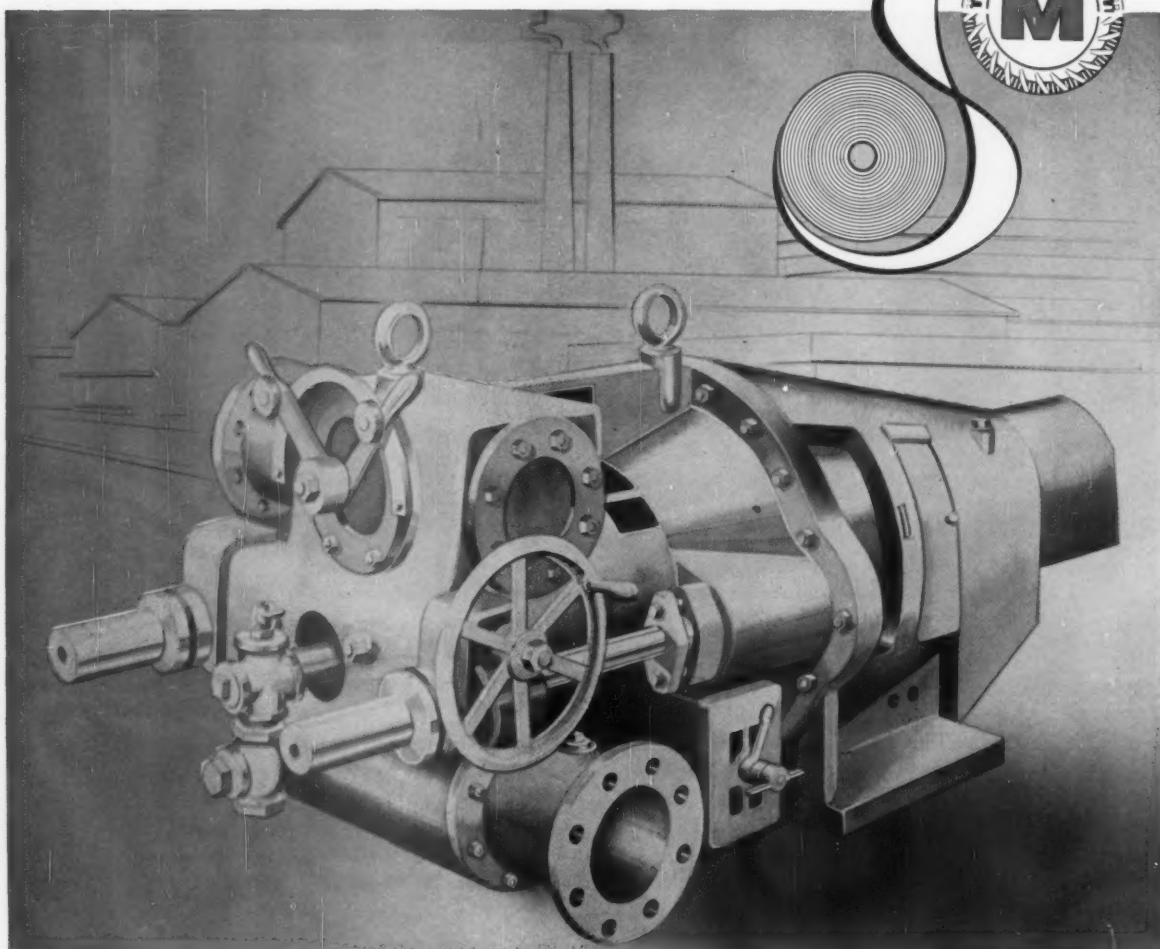


Gulf States Paper

C O R P O R A T I O N

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In hundreds of mills, in more than 20 countries, Morden machinery is depended upon for quality stock preparation.

There is a definite reason for this widespread confidence. Morden has specialized in stock preparation equipment ever since its founding in 1931. Morden's sole concern is the manufacture and improvement of equipment to simplify stock preparation. Morden maintains its own laboratory where Morden equipment is tested and adapted to solve specific mill problems. In addition, Mor-

den's personnel is traveling continually to assist in the use of Morden equipment.

If your mill is interested in quality production with worth-while savings in power and labor, it will pay you to investigate the many advantages of Mordenizing your stock preparation. For further details refer to your Morden Catalog, or if you do not have one, send for your copy and ask us to visit you for an in-the-mill discussion of your requirements.

MORDEN MACHINES COMPANY

3420 S. W. MACADAM AVENUE • PORTLAND, OREGON

UNITED STATES REPRESENTATIVES — Midwest: Don B. Chapman, Appleton, Wis.;

Northeast: Orton Corporation, Fitchburg, Mass.; South: Brandon Sales, Greenville, S. C.



Story of progress...

Dominion Engineering's part in developing Pressure Headboxes



The pressure head box is an essential component of all high-speed paper machines. The photo above shows the 1956 version of the original patented design pressure head box, as developed by Dominion in 1936.

Dominion continues to produce advanced designs in anticipation of the pulp and paper industry's demand for faster and more efficient machines.

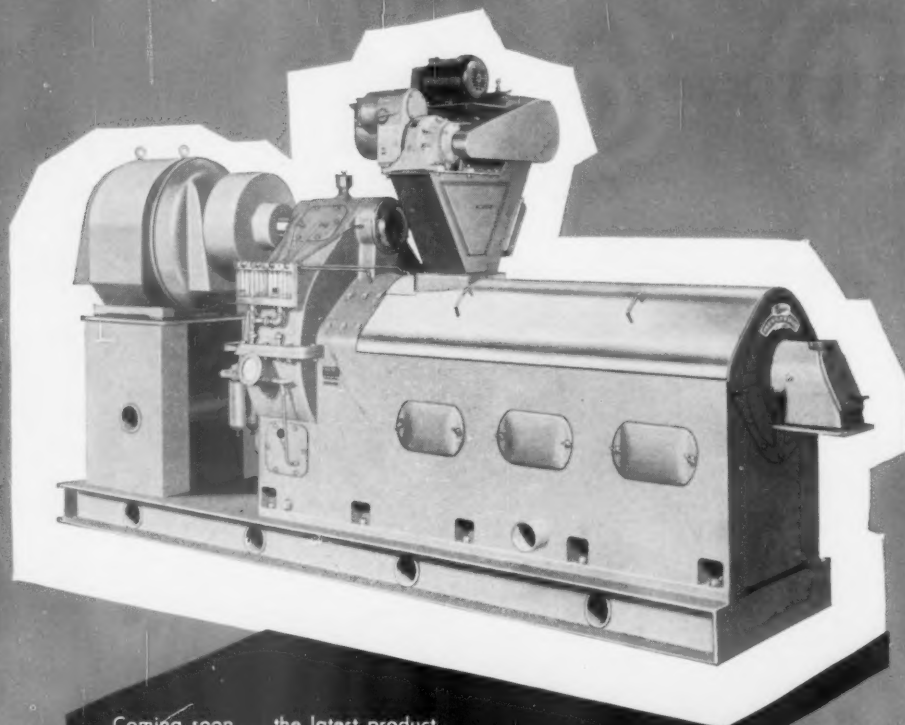
DOMINION ENGINEERING WORKS LTD. MONTREAL	
TITLE: PRESSURE HEAD BOX PATENTED. CAN. 1936 USA. 1940	
DRAWN BY: J.D. SEPT. 16 1936	PAPER MACHINERY DIVISION
SCALE. 1 1/2" = 1' 0"	DRWG. C 11393



DOMINION ENGINEERING
COMPANY LIMITED, MONTREAL

Designed and Built by Bauer...

the newest in PRESSAFINERS



Coming soon... the latest product of Bauer research... designed for high production, increased efficiency and for lower operating costs in liquor recovery, fiberizing and a mild steaming effect with chips.

Ask for complete information.



THE BAUER BROS. CO.
1706 SHERIDAN AVE.
SPRINGFIELD, OHIO



SPECIAL SERVICE ON REPLACEMENT ORDERS

When down-time runs into dollars with every minute, *special service* on replacement orders means substantial savings to Damascus customers.

This special service is possible because, as a supplier of tubing for original equipment, Damascus can frequently fill orders immediately from mill inventories. Where pipe or tubing required is not on hand, a large inventory of stainless strip usually permits Damascus to complete your order within days. Damascus doesn't have to wait for delivery from the strip mill.

When you need tubing in a hurry, call Damascus. We can quote delivery and prices over the phone.



Write for
free
booklet.

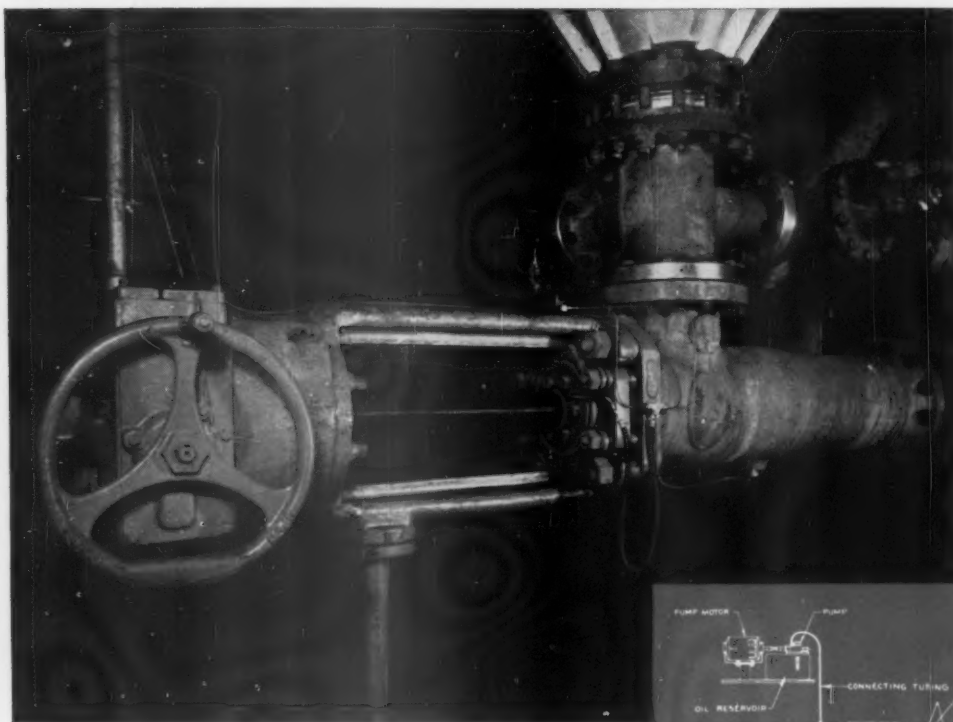


DAMASCUS TUBE COMPANY

STAINLESS STEEL TUBING AND PIPE

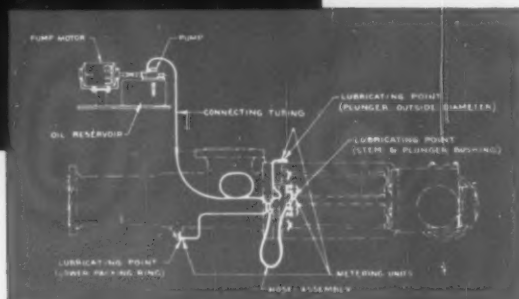
GREENVILLE, PENNSYLVANIA

YARWAY DIGESTER BLOW VALVES with AUTOMATIC LUBRICATION



One of a battery of Yarway Digester Blow Valves, motor operated, with automatic lubricators, in a large Washington pulp mill.

Diagram showing arrangement of Yarway Automatic Lubricator on Yarway Digester Blow Valve.



► **...help increase production,
cut maintenance and
save manpower**

Automatic lubricators on Yarway Seatless Digester Blow Valves add new cost-saving and labor saving features to digester operation.

Push-button control of these valves also provides automatic lubrication of them at the right places . . . at the right time. Result—less maintenance, fewer production delays, release of manpower for other productive work.

Reports on low operating cost experiences from pulp mills using Yarway Digester Valves, are impressive, too. One large mill found the resultant savings in operation and maintenance the first year more than paid for the cost of their new 4 Yarway Digester Valves.

Yarway Seatless Digester Blow Valves are either motor or hydraulically operated. All are remote controlled—designed for clean, free discharge and tight shut-off.

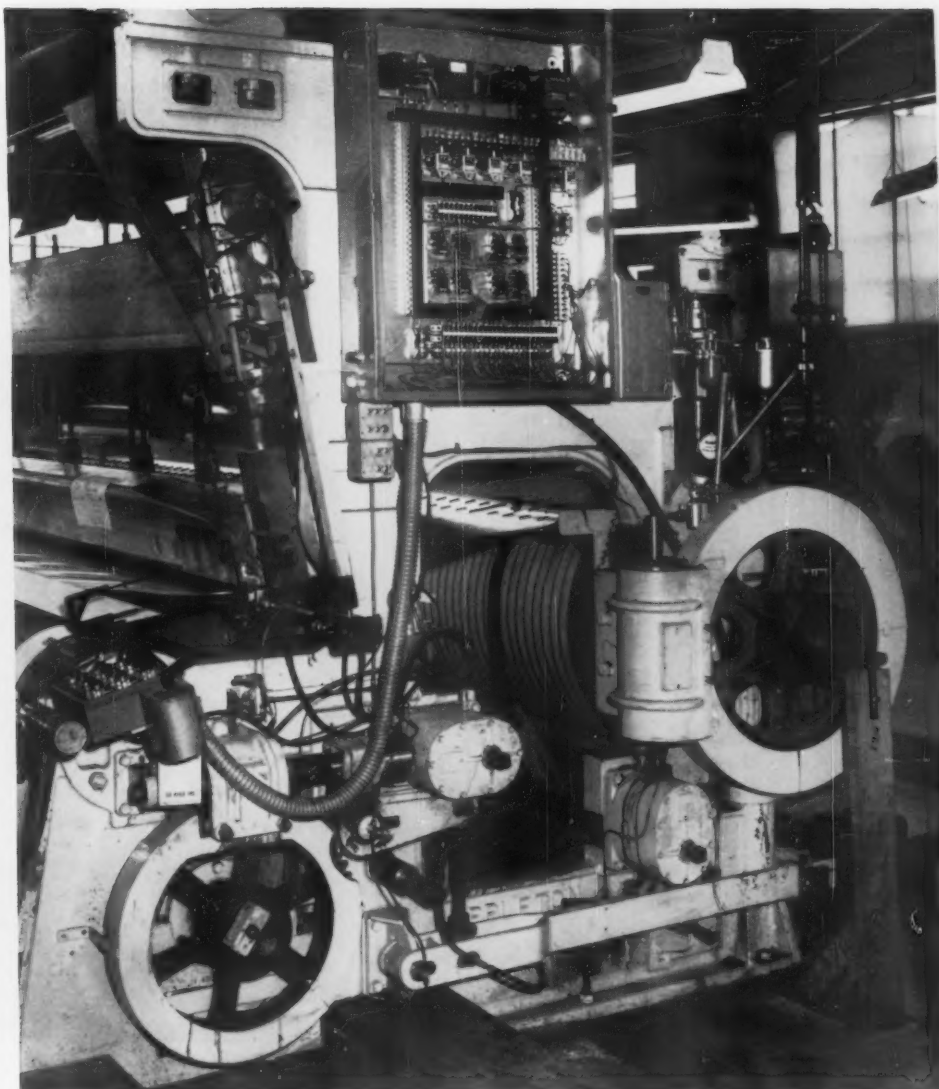
For full information on Yarway Seatless Digester Blow Valves, write for Bulletin B-441. No obligation.

YARNALL-WARING COMPANY

103 Mermaid Ave., Philadelphia 18, Pa.
BRANCH OFFICES IN PRINCIPAL CITIES

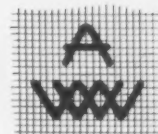


DIGESTER BLOW VALVES



This is the result of a research and development program started over 10 years ago. It is a view of an Appleton automatic loom. After thorough testing, all of Appleton's more than 100 Fourdrinier wire weaving looms were converted to automatics. Appleton Wire Works, Inc. General Offices, Appleton, Wis. Plants at Appleton and Montgomery, Ala. International Wire Works, Menasha, Wis., an affiliated company.

APPLETON WIRES ARE GOOD WIRES



Hooker cuts valve maintenance costs on chlorine service



Crane chlorine valves have longer service life

The Hooker Electrochemical Co. knows that the hazards of liquid chlorine loading rack service call for valves that can stand the gaff. That's why it selected Crane No. 1654 and No. 1655 flanged end globe and angle valves for its Tacoma, Wash., plant.

Except for infrequent servicing of the packing, these Crane valves have been entirely free of leakage and maintenance since being installed over three years ago.

What gives Crane chlorine valves this extra performance value?

Each part is designed of materials suitable

for the service needs. Carbon steel body has heavy wall sections for safety. Monel stem and Hastelloy "C" seating combination withstand the corrosive effects of chlorine. Narrow bearing 45° taper disc and seat design breaks down hard deposits on seating surfaces, assures positive closure. Teflon stem packing assures tight stuffing box, with easy operation.

If you are handling water-free chlorine gas or liquid in your plant, it will pay you to ask your Crane Representative about the complete line of Crane chlorine valves.



ASK YOUR CRANE MAN for a copy of "Valve Performance Facts"—32 case histories throughout industry. Or write to Crane Co., address below.

CRANE VALVES & FITTINGS

• PIPE • PLUMBING • KITCHENS • HEATING • AIR CONDITIONING •

Since 1855—Crane Co., General Offices: Chicago 5, Ill.—Branches and Wholesalers Serving All Areas



It's like making money... upgrading paper with lower sizing costs!

Now you can upgrade your sized papers—and cut sizing costs at the same time! Just replace up to half your rosin size charge with a small amount of ALWAX* or WAXINE* Size. Choose from 17 grades to improve your paper in:

Water Resistance	Superior Foldability
Surface Smoothness	Curling Resistance
Scuffing Resistance	Ease of Finishing
Even Calender Staining	

Whether or not you've had experience with wax sizes, you will be interested in what your Cyanamid Paper Chemicals Representative can tell you about ALWAX and WAXINE Sizes. Let him help you determine the savings and quality benefits that apply to your operation.

ALWAX Sizes are acid- and alkali-stable emulsions of paraffin and microcrystalline waxes.

WAXINE Sizes are acid-stable emulsions of wax and rosin.

Either can be added to the beater, size-tub, calender box or coating mixture.

*Trademark

HELP WANTED?

BEATER CORROSION WITH TINTING

—in a beater-added tinting operation, low alum pH was causing undue corrosion. Cyanamid's Sodium Phospho Aluminate, used with reduced alum, maintained brightness at pH above 6. Corrosion was licked and tinting transferred from beater to calender box, saving 70¢ to 80¢ per ton.

HARD WATER SIZE

Mills in hard water areas get best sizing performance with high free rosin size... or with fortified, which give high sizing regardless of water hardness. A number of grades of both fortified and high free rosin sizes are available from Cyanamid.

STOPS BOARD CHIPPING

Western producer adds at beater as little as 0.1% CYNOL® 761 Softener (based on dry fiber weight), gets a heavy board which cuts without chipping.

DAMAGE UNDONE

Manufacturer discovered after large run of a quality rag-sulfite that someone had overlooked adding wet-strength PAREZ® Resin 613. Saved the lot by dipping in a 5% PAREZ 613 solution, bringing wet strength up to spec.

SIZING RECORDING CHARTS

Industrial recording charts have critical sizing requirements to take long contact with wet ink. Our laboratories screened many size formula-

tions and met New England mill's with a 5% CYRON® Size solution applied at 0.8 pounds per thousand square feet.

HELP WANTED—PAPER MILLS

Your problems and those of the entire paper industry are the sole concern of Cyanamid's Paper Chemicals Department. Success in meeting past challenges is evidenced by the Cyanamid line of paper chemicals—largest in both volume and variety available from any manufacturer. This specialized experience and these specialized products are offered to help you solve specific problems in paper production and upgrading of your paper quality. You'll find your Cyanamid Paper Chemicals representative ready, willing, eager—and able—to help.

TER

—in aeration, ingur Sodit used tained 6. Co tintin, to calc 80¢ pe.

Mills in best siz high free fortified, ing rega ness. A both for rosin siz Cyanami

CYANAMID

AMERICAN CYANAMID COMPANY PAPER CHEMICALS DEPARTMENT

30 Rockefeller Plaza, New York 20, N. Y.

In Canada: North American Cyanamid Limited, Toronto and Montreal

LARGEST SUPPLIER OF CHEMICALS TO THE PAPER INDUSTRY

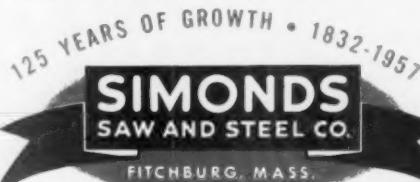
Time to Change Knives?
NOT IF IT'S A
SIMONDS
 RED STREAK
PAPER KNIFE

Famed for Long Life, Straight Cutting!

Simonds Paper Knives provide the perfect combination of toughness and edge-holding. Because they keep "putting out" longer while cutting cleaner and straighter, you save on down time. You get these 3 important quality features:

- (1) **Both Concave and Taper Grind** — the face side not only tapers back from the cutting edge but is concave ground. (Knife cuts free and easy without rubbing the stock.)
- (2) **Mirror-Smooth Finish on Face Side** — this finish "reflects" the results you get in a keener cutting edge and longer knife life.
- (3) **Special Alloy Steel** — Simonds paper knife steel (S-301) is formulated specially for cutting paper. That's why it packs the hardness and toughness to give a bonus in more cuts per grind.

You'll cut costs as well as paper with Simonds Red Streak Paper Knives.

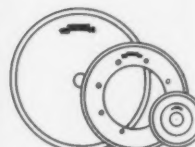


Factory Branches in Boston, Chicago, San Francisco and Portland, Oregon, Canadian Factory in Montreal, Que., Simonds Divisions: Simonds Steel Mill, Lockport, N. Y., Heller Tool Co., Newcomerstown, Ohio, Simonds Abrasive Co., Phila., Pa., and Arvida, Que., Canada

Other
 High Quality
SIMONDS
 Products It Will
 Pay You to Use



HOG & CHIPPER KNIVES



CIRCULAR CUTTERS

Only the Best goes into Puget Pulp

The lords of the forest in the Pacific Northwest—hemlock and spruce. These—with long, strong fibres—go into Puget Pulp. With Puget Pulp's policy of careful cutting and reforestation, a continuing supply of these valuable trees is assured.



PUGET SOUND
PULP AND TIMBER CO.
B E L L I N G H A M , W A S H I N G T O N

when you're handling CHIPS...

nothing
beats
air!

**SPECIFICALLY ... NOTHING BEATS CONVEYAIR FOR MOVING
CHIPS ANY DISTANCE — ANYWHERE — AT LESS COST!**

Conveyair's "Chipveyor" will reduce your chip-handling costs right down the line ... it costs less to install, less to operate, less to maintain ... but that's only half the Conveyair story; the real merit of this pneumatic conveying system lies in its *flexibility*, and its excellent performance over both short and long distances.

Conveyair's flexibility starts on the drawing board, where every Chipveyor is designed to do a specific handling job ... it may be required to move chips, hog fuel, planer shavings, sawdust or other granular materials a few hundred feet, or well over a mile ... to go under, over, or around obstacles ... to deliver the material under pressure or incorporate a cyclone to simulate gravity discharge.

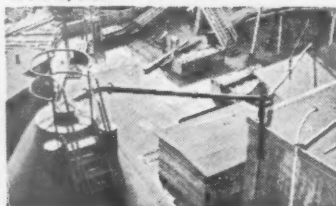
With this flexibility in design and installation, a Chipveyor is often the *only* conveying system which can be adapted to a mill without extensive and costly alterations to layout.

Conveyair maintains complete engineering and research facilities ... all components are built to rigid standards in our own plant ... factory-trained engineers supervise every installation ... service agencies are located in most principal cities.

PUBLISHERS PAPER COMPANY
Oregon City, Ore.



RAYONIER INC.
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ANGLO-CANADIAN LUMBER CO.
Vancouver, B.C.



pneumatic materials handling systems
Conveyair

Conveyair Sales Ltd: 125 West 1st St. North Vancouver,
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Write for details
of a Conveyair system
in your mill.

B. C. • YOrk 1166
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Photo
courtesy of the
U. S. Printing &
Lithograph Co.,
Cincinnati, Ohio.



it's **OK** let'er go!

"Precision trimming—longer runs with OK SUPER paper trimming knives"—reports U. S. Printing & Lithograph Co., Cincinnati, O.

Actual tests made in companies requiring this operation have conclusively proven OK Knives deliver 20% to 30% longer service, resulting in more production at a lower cost!

OK Knives are made of the finest alloy steel specially hardened to stand the heaviest cutting, while still retaining an ultra keen edge.

OK SUPER paper trimming knives are beveled and hardened for practically all types of cutting. For unusually tough jobs like trimming aluminum foil, film, cellophane, glued board, plywood, etc., these knives are available in special bevels and hardnesses.

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for comprehensive
literature

Manufacturers of
OK SLITTER KNIVES
CHIPPERS
TRIMMERS
REVOLVING CUTTERS

GO WITH OHIO GREEN

THE OHIO KNIFE CO.

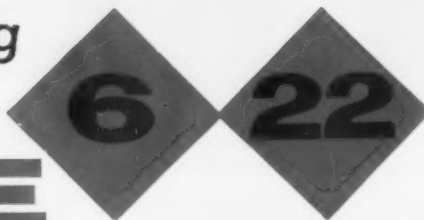
CINCINNATI 23, OHIO



Beginning of Easier Cutting

THE NEW, ALL NEW

HOMELITE



See all the famous Homelite Line!

You can cut more wood in less time with the new Homelite 6-22 chain saw in any kind of hard or softwood production cutting.

From notching to final bucking, its 6 full horsepower and 22 balanced pounds make quick work of every cut. It has the lugging power to fell trees up to 7 feet in diameter and cut through 20" trees in 18 seconds. Big new fuel tank lets you cut longer without refueling. A real professional's saw, the Homelite 6-22 stands up under the grind day in and day out for dependable, low-cost operation.

Famous Homelite engine features give you more for your money, too . . . new, revolutionary intake valve increases engine power, prolongs life. New chrome-plated cylinder in the short-stroke, high-compression engine cuts friction, decreases gas consumption.

Your choice of straight blades from 14" to 60" or 14" and 18" plunge-cut bow. Get a free demonstration from your Homelite dealer.

HOMELITE
A DIVISION OF TEXTRON INC.

7710 RIVERDALE AVE., PORT CHESTER, NEW YORK

Homelite builds and sells more chain saws than any other company in the world.

6-22 most versatile all-purpose gear drive chain saw available. Has straight blades, plunge-cut bow, brush-cutting and clearing attachments. 6 horsepower, 22 pounds. Gives you everything you want for dependable, year-round performance.



EZ-6 lightest, most powerful direct drive chain saw made. 6 horsepower, 19 pounds. Easy to carry, easy to handle. Cuts trees up to 5 feet in diameter, zips through 8" oak in 4 seconds, 18" pine in 14 seconds.

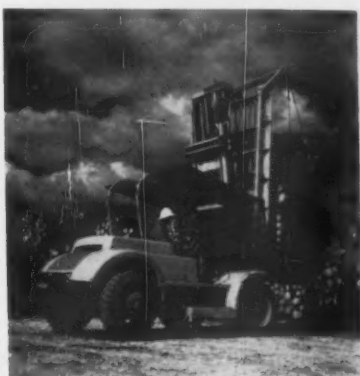


4-20 rugged, gear-drive chain saw gives you consistent, dependable performance in a wide range of cutting jobs. 4 horsepower, 20 pounds, cuts trees up to 4 feet in diameter.



7-29 most powerful one-man chain saw you can own. 7 horsepower, 29 pounds. Powerful enough to bring down any tree in a stand. Fells trees up to 10 feet in diameter.



**Rubber-tired tractor****Southern concentration yard****Mechanical debarkers****Pallet eases labor shortage****Chain Saw fells hardwood**

In Past Ten Years, These Things . . . **CHANGED THE FACE . . .** of the Pulpwood World:

- | | |
|-------------------------------------|---------------------------------------|
| 1. The chain saw . . . | 7. New mechanical barkers . . . |
| 2. Portable yarding equipment . . . | 8. Chemical debarking . . . |
| 3. The pallet . . . | 9. Site preparation . . . |
| 4. Rubber-tired tractors . . . | 10. Concentration yards . . . |
| 5. Tractor attachments . . . | 11. More complete utilization . . . |
| 6. Sawmill barking-chipping . . . | 12. Doubling of pulpwood demand . . . |

THE NEXT TEN YEARS?

1. A machine that delimbs and debarks at same time?
2. Forester-mill chemist agreement on formulae for "perfect" trees?
3. Hand chipper with plastic tube to carry chips back to trailer?
4. Central plant to separate chips from bark by flotation?
5. A tractor to do everything from cutting to planting?
6. More axles per truck and 40-cord loads off-highways?
7. Year-around logging in all areas of the Northeast?
8. Portable chippers and barkers for use in woods?
9. Larger and higher production capacity logging units?
10. Sky-line logging in the mountainous areas?

LOOKING BACK . . . LOOKING FORWARD

A Report prepared on the 10th Anniversary
of PULP & PAPER'S PULPWOOD SECTION

Occasion for This 10-Year Review And Peek into the Future

PULP & PAPER has been publishing its popular PULPWOOD SECTION for ten years.

Main purpose of the PULPWOOD SECTION has been, and still is, to give constructive assistance to efforts to keep the cost of pulpwood in long range balance in an economy that depends on a growing supply of wood.

When this section was started United States production of pulpwood was under 19 million cords, and because that was a 15% jump in one year, it was thought to be a fantastic record. And yet, last year production was over 37,000,000 cords and worth over half a billion dollars.

Costs Are Big . . .

Cost of wood delivered to the mill is from 30% to 40% of total production costs of many mills in this industry. The opportunities to make savings, to develop better methods and machinery, are far greater from tree to mill than in the mill. The entire area of growing trees, harvesting and delivering pulpwood to the mills is an area in which the industry can control the most important segments of its basic raw material costs, and therefore, the final costs of its products.

That was, and is, the "why" of this PULPWOOD SECTION. Those who read it:

Presidents, vice presidents, managers . . . because they must assure their mills of wood to keep running, for years in the future, and at lowest possible cost.

Technical men . . . because they must help woodsmen to produce better trees, chemically and physically.

Engineers because better equipment and processes are needed for handling wood and preparing it.

Wood production men . . . because they are directly responsible for getting wood to the mill more efficiently and at lower cost.

Foresters because their re-

sponsibility is to grow better trees and to learn from technical men in the industry the kind of fiber that is wanted.

A Significant Year . . .

Of course, pulpwood operations and forestry had been covered in PULP & PAPER for many years before this section was inaugurated.

The year the section was started was a notable one.

The late Col. W. B. Greeley, a former U. S. forester, was a featured Paper Week speaker. He said real progress in conservation was being shown "because of the commercial urge to grow trees."

Reuben B. Robertson, Sr., was serving his second term as president of the American Paper and Pulp Assn., and significantly his company was in the throes of shifting many operations closer to wood resources.

There was talk of dangers of a "sellers' market," of "overexpansion." Secretary of Commerce Krug said mills ought to be built in Alaska, reports were that Swedish timber was being over-cut, a congressional committee was formed to investigate newsprint, the TAPPI Gold Medal went to the late Pete Massey, inventor of a high speed coating process to serve new mass circulation slick-paper magazines, which were requiring more and more woodpulp.

A man with a vision about the wood problem, Gunnar Nicholson, now president of Tennessee River Paper Mills, which is going to spend a couple of years mostly just getting forest lands ready to make paper, had completed his term as TAPPI president. Later, his successor, Worthen Brawn of Maine, died suddenly on an ocean liner. Wilbur F. Gillespie of Gaylord succeeded him. Mr. Nicholson still views wood growth and production as the big field for this industry: "Producers have no conception of the new methods and equipment that will be developed," he says now. ●

What's New

..... What Is

● This is an era of "collapsing time," when man can circle the globe in less than 40 hours, and is readying a satellite which will do it in an hour. The time it takes to get things done, to find new ways, diminishes with each day. So, too, in the woods. The past decade has seen a revolutionary change—in methods and in thinking. But many of the big changes have come about in the past two or three years.

It is hard to predict what 1967 will have to offer but one thing seems certain—the ideas of today will most likely be as antiquated as the mule and pulpwood wagon.

In the South . . .

In the woodlands—Southern forestry came into the limelight of recognition for the first time and the Southern industry really began major conservation moves in earnest in the past decade; number of foresters employed by industry increased phenomenally from 265 in 1947 to 1021 last year; major steps were made in reforestation, industry-owned and public nurseries produced a record half billion seedlings a year on their own lands, contributed 191 more to private landowners for a total of close to 700 million seedlings in just 10 years; useless lands came under the "big eye," industry began restoring as much as half a million acres a year of unproductive forest land to timber; site preparation was recognized as important to the growth of bigger and better tree farms, more than 100,000 acres a year is currently being prepared for trees; a full fledged program of genetics to produce "super trees," taller, stronger, faster growing, disease-immune, was started in several Southern universities and by several state forestry groups (at University of Florida, cones from grafted root stock have reportedly been produced in only two years); soil and site evaluation gained recognition as a "must" in making sound plans for growing timber.

New equipment: A sturdy harrow for use in the rugged restoration of cut-over lands; standardized size tractors for woodlands use; mechanical tree planters employing the plowed furrow principle; aerial spraying of herbicides to control hardwoods,

In Each Region Foreseen for the Future

brush and grass and the use of the same equipment for direct seeding.

In established stands of timber—The South declared war on its public enemy No. One, forest fires, boosted forest fire protection from 40% to almost 90% of industry, privately-owned lands spent close to \$15 million battling the menace, hired experts to study equipment and methods for fighting fires; widespread use of FM two-way radio became a reality; T-V was introduced as a possible means of detecting fires and airplanes were used to coordinate efforts on the ground; fire retarding chemicals which can be dropped from the air were introduced; insects and forest pests were recognized as a major hazard and consideration was given to a control program; aerial photography and photo-interpretation were recognized for woodlands use; exciting new programs, many of them impressive and far-reaching, were introduced to better manage company forest lands; and this was an era when surveys showed company-owned lands to be better managed on the average than public and privately-owned forest areas; industry took giant steps toward helping the small tree farmer manage his lands, by marking trees, offering free advice on hardwood control and more yield per acre, giving him free seedlings to replenish cut-over lands.

Utilizing the harvest—Biggest news was in wastewood chipping, which proved a bonanza for small and medium sized sawmills, helped keep many in business when markets were soft and provided as much as 25% of the wood needed to run some of the South's largest pulp mills; use of chips increased amazingly from 125,000 cords in 1955 to more than 500,000 in 1956, may well total the equivalent needs of three or four 450-ton-a-day mills this year; chipping hardwood veneer waste also came into its own; hardwood species were accepted and new ways to use them developed, boosting use from 800,000 cords in 1947 to more than 3 million in 1956; mill technicians began to realize that closer utilization of wastewood meant they could actually "grow timber" without ever planting a seed. Prediction: Use of 3 million cords of wastewood chips by 1967.



The Chain Saw . . .

New equipment: Whole log debarkers to clean logs at the sawmill and make wastewood chipping easier; a better slab debarker than was originally introduced; railroads helped by building bottom-dump type chip cars; smaller, almost portable chippers designed to fall into price range of the little operator; work continued on the pesky problem of extracting the bark from the chips, one of major objections of those who hold out against chips from waste.

From the woods to the mill—Mechanization sums it up pretty much; introduction of the pulpwood rack car and its rapid acceptance; mechanization of rail concentration yards which cut man hours considerably and thus slashed the price of wood delivered at the yard; mechanization of mill woodyards with equipment like cranes, flumes and speedier handling

facilities; late developments in accurate scales which heralded the widespread acceptance of weight scaling as opposed to scale by volume; use of the bulldozer and with it, extensive road building and fire break programs; introduction and acceptance of the pallet system and simple yet effective ways of truck mounting loaders; full acceptance of the chain saw and efforts to improve it; better systems for keeping accurate inventories of wood on hand and well organized systems of wood procurement; the development of bigger and better trucks and trailers for increased payloads, longer hauls.

Next 10 Years for the South . . .

Some predictions on changes the coming decade may introduce in the woodlands, suggested by several of the South's top woodlandsmen:

In the woodlands—Pelletized seeds, marble-size, consisting of genetically superior seed surrounded by layers of fertilizer, bird-rodent-fungi repellent, and a wetting agent providing nursery-like protection while seed is germinating, permit a skyrocket of present low machine and man/day production rates associated with current planting techniques; an open land mechanical seedling planter which plows and furrows, plants two or more seedlings at a time; wild land seedling planter which discards plowed furrow idea, can operate in slash, stump, bog areas (a revolutionary machine of this type has been made possible by the mechanical per-

fection of elementary principles associated with the planting bar and walking stick); wild land direct seedling planters which deposit pelletized seeds at very high rates of man/day production; helicopters for use in placing marble-size pelletized seeds in rows and at proper distance by means of suspended tubes and metering devices, and for transporting fire equipment, personnel, spare parts, mechanics, light machinery; one machine for site preparation which will clean and defibrate all woody and herbaceous material, spread it over land and cultivate on second pass yet be small enough to transport from one area to another; trees grown to

pulpwood size, through genetics and better preparation, in 10 years; complete fertilization, planting and harvesting methods similar to those used on farmlands today.

Utilizing the harvest—More preparation in the woods, chipping and cleanup in the forest site; chippers in the woods which use the entire tree, with screening at the mill; one-man woodlands loading methods within the little man's price range which will cut down on the number of laborers now used, perhaps using the Hiabob principle or something similar (must be cheap and fast); an established program of job-training for each man producing pulpwood fiber, education for small producer on such things as finances, new equipment, utilization; on large tracts of timber, a one-man skidding device, equipped with felling and delimbing attachments; on tracts with heavy volume, tractors of the D-7 class mounted on rubber with a scraper-type attachment for felling trees, a skid behind with small, lightweight delimbing, debarking and chipping attachment; chippers in even the smallest sawmills which chip all residues.



Mechanized Woodyard . . .

News Stories of 1967 . . .

Here are some stories that these men hope will be written 10 years hence:

A saleable product is being manufactured from brush and inferior wooded growth. New type forest site preparation machine removes brush as it prepares the land for a new crop of timber.

Company X is now using FM radio, microwave and T-V to remotely control harvesting and fire protection on its carefully managed and planted lands. One man can fingertip-control 50 acres at a time.

The biggest news of the year is development of a screening and separation machine which makes it possible for entire trees to be chipped on the spot, needles, cones and everything. Chips are separated from unuseable matter in a special chip preparation room at the mill.

A one-man chipper is now being used by Company Y. The operator can fell a pulpwood size tree and convert it into chips which are blown from the chipper to chip pallets through lightweight plastic tubing.

Pulp, paper and paperboard industry is now making pulp from planer chips, a sawmill waste which heretofore had little or no commercial value.

There is no longer ANY "sawmill waste."

On the Pacific Coast . . .

Timber grows big on the Pacific Coast and industry is still harvesting old-growth stands. This will continue to be an important factor for years to come. Not only does this facilitate utilization of the mature timber but is an effective means of converting from stagnant forest stands to young, thrifty, fast-growing trees. The region's wood-growth prospects are excellent.

Logging in the Douglas fir country generally concerns clear-cutting of isolated blocks left completely surrounded by forests. This plan, in addition to providing for natural re-seeding, begets reproduction of the same species. Because of Douglas fir's intolerance to shade, continued partial cutting in a hemlock-D. fir stand favors the hemlock. Little hemlocks thrive in the shade and are ready to take over as holes open in the canopy.

Consequently "logging" there generally involves harvesting trees of all sizes, converting them into logs and transporting them to lumber, plywood or pulp mills.

All logs are generally handled pretty much alike except for end segregation to facilitate processing according to highest utility. Exceptions are prelogging, to remove trees which might otherwise be damaged by prime logging, and re-logging to salvage low-value material with light equipment.

Pulpwood logging, as such, is hardly common to the region. Straight pulpwood logging practically confines itself to two conditions—second growth stands thinned as part of the forest management plan, and stands containing trees suitable principally for pulping because of species and/or size.

This means that, on the Pacific Coast, developments made in general logging are developments in pulpwood logging.

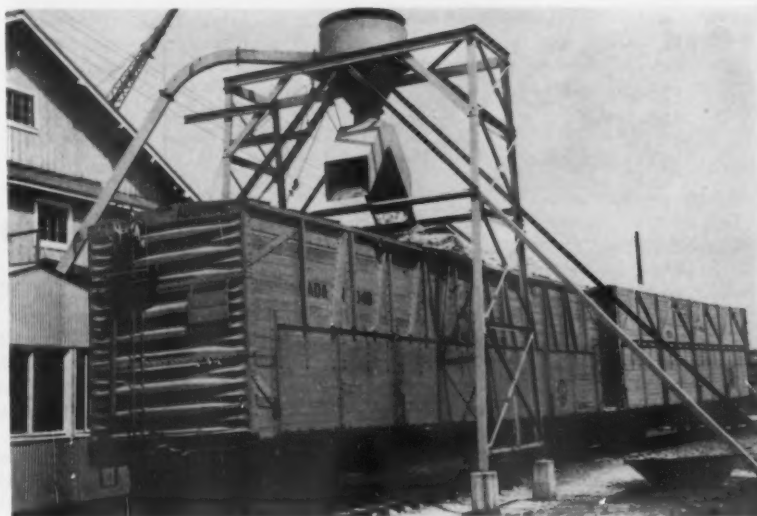
During the past decade there has been extensive change in the western forest products industry—it's been termed a "revolution." The big trend has been to more complete wood utilization. As a result some of the established pulp companies branched out into production of other forest products; lumber and plywood producers affiliated with, or became, pulp-paper-paperboard producers. Practically every major sawmill in Western Oregon and Washington, along with many smaller mills, have made extensive additions for converting plant residue wood into pulp



Site Preparation . . .



The Pallet . . .



Chips from Waste . . .

**Mechanical Loader Is This Item . . .**

Hiabob Loader, with patented hydraulic grapple, goose-neck arrangement of boom, and crane which was imported from Sweden. Made by Diesel Power Equipment Co., Ely, Minn.

chips. This trend is also strong in Northern California, British Columbia, Western Idaho and is getting started in Montana.

As to the future: Western industry leaders, aware of impending changes in forest conditions, anticipate development and acceptance of light mobile logging equipment with which small logs can be handled economically with minimum disturbance to forest soils and residual stands. One prediction is that within five years portable chippers and barkers will be in use which will make it economical to salvage limbs and tops of felled trees down to 2-in. diameter—even on rough ground.

**Developments in
Past 10 Years . . .**

Rubber-tired tractors with various front-end devices for handling logs and cord wood have come into production and received extensive use application. These range in size from small machines built to handle minimum loads to 60-ton diesel-electric tusk-equipped jobs which will remove a 15,000-foot load of logs from truck and trailer in one bite and carry it off to the deck—or, possibly, sort the logs by species, grade and/or size and load them onto another truck-trailer. The Wyssen skyline logging system, developed in Switzerland for logging

steep country where soil erosion may become a factor, has been introduced into U. S. and is receiving trial application.

Portable and mobile steel spars, rigged with lines and blocks for cable logging, replaced the use of natural spars rather extensively in some areas. Although gasoline powered chain saws are not new to this decade, they have reached unprecedented acceptance during the era and all but eliminated hand falling and bucking. Their use has been broadened by development of supplementary attachments—an area which promises further intensification. Watch for the debarking attachment soon to be produced on West Coast.

High-stake pallets contributed to low-cost handling of short pulpwood.

The super king-size crawler tractors, available the past two years with over 50% more power than the largest previous models, contribute to lower logging costs in many Western operations, principally through reducing forest road-building costs. These tractors are used to limited extent for skidding but decision to purchase has been generally confined to advantages for construction-use.

Tree-length logging has been extensively accepted in the West, particularly in the pine region. This has "production line" characteristics and advantages.

Loading Logs . . .

Developments for loading logs in the woods have been many. Machines specially designed for log loading are available where previously such components were inclined to be "general utility" vehicles with auxiliaries purportedly fitting them to logging. Among the specific developments are faster line speeds (both in and out), travel and heft characteristics adjusted to logging needs, cabs redesigned for the logging operator.

In conjunction with progress in loading machines came a major change in methods of grasping the log. Although not eliminated, the chokers, end-hooks, tongs and slings have yielded to various other devices in the West. These include air tongs and a wide assortment of grapples, the latter evolving from the clamshell type bucket which entered the log-handling field in Montana about ten years ago. Air and electrically powered components mounted on loaders to position the grapples (and logs) further enhance the value of these new logging "tools." Rapid acceptance of

**Where Stories Are Gathered
For Pulpwood Section**

First story in the PULPWOOD SECTION ten years ago told how Minnesota & Ontario Paper Co. improved its woods operations.

That year PULP & PAPER editors went to Comer Brook, Newfoundland; to Forestville, Quebec; to Berlin, N. H.; to New Orleans and Bogalusa, La., to get stories.

In these ten years, many pulpwood stories have been gathered by P & P editors, traveling into virgin forests in interior Mexico, to Ketchikan, Alaska, and many points in the United States from New England and Florida to California and Washington, and in Canada from British Columbia to the Maritime Provinces.



Chemical Girdling

A quick kill during the sap season (when the farmer is usually not too busy) loosens the bark permanently from the wood. It has permitted use of better class workers (college students).

new developments in loaders and auxiliaries has been due to factors such as safety, increased per-man output, economy, reduced breakage and damage to logs.

In the Northeast . . .

Northeastern loggers are generally agreed that most important development of the decade is the chain saw. The next ten years will see more concentration of effort from stump to gravel road, they say.

The big thing coming up may be hauling big loads (40 cords!) by trucks for longer distances. A few years ago 60 miles was laughed at as being too long. Now International Paper Co. is hauling 100 miles in this region. Needed: more axles per truck, higher loads, lower center of gravity. Big deterrent: highway regulations. But IP is experimenting with 40 cords on off-highway hauling right now. Wheeling has made more progress than loading.

Tractor skidding: woods managers from a large company had a session recently and argued half a day re 4-ft. logging vs. tree length skidding. Also important: Lightweight equipment, such as the John Deere, a lightweight, compact, cheap unit, ruggedly built.

Loggers talk of pushing development of rack cars in Northeast. They need them and it would give railroads more business.

The trend to hardwoods in the Northeast has not grown as much in the last 10 years as many think, not as much as softwood has increased. Hardwoods may increase more in next 10 years.

Other comments from Northeast Yankees on important trends: Integrated and tree length logging; concentration yards—the Northeast has

four (three for IP, one for Champion-International); the pulpwood sling; pulpwood trucking; chip concentration yards; pallets, introduced in South by Lucian Whittle of Brunswick Pulp & Paper, now coming into the Northeast; year-round logging in the Northeast (Diamond Match is now doing it); and tandem trailers.

The biggest thing to come in the Northeast may be integration between sawmills, pulpmills and all wood-using industries to make most economical use of every fiber in the bush. Then hardwood to become the "Queen" fiber and, next, the pulpwood pallet to be as common as the chain saw.

A woodlands manager for a large integrated company, asked for some "blue-sky thinking," wishfully dreamed this way:

"We certainly should think more about buying pulpwood by weight. There's a darn good reason for it is sounder, has advantages in service to buyer and seller. Most important it eliminates uncertainty of personalities."

"Another thing," continued this woodlands manager, "the only reason that wood is taken to the mill is to pay for it and make sure that you will get the right kind of quality. But a lot of cellulose stays in the woods in



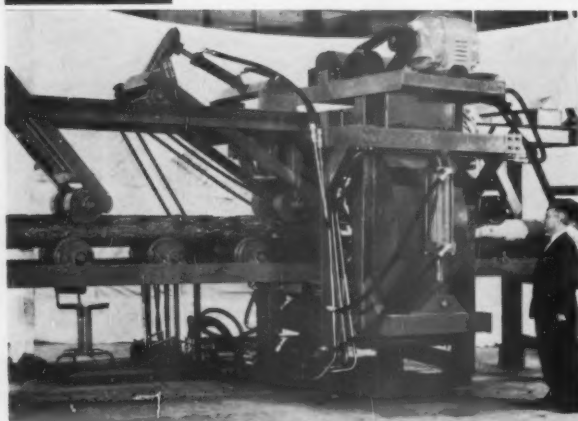
Year Round Logging in Maine

Frozen lake surface provides handy unloading and storage area in Maine. Comes "ice-out" time in the Spring and the logs are floated to the mill. Sling-equipped crane makes quick work of unloading. Snow-topped woods roads, ideal for hauling, in the next 10 years may handle even heavier loads of pulpwood.



How Will Future Change This?

Woodsmen still seek practical way to cut down costly, slow handloading in the woods.



NEW MECHANICAL BARKERS BEING DEVELOPED. South Carolina Lumberman Carl Mullins invented this log debarker which uses hydraulic principle to keep even pressure on debarking tools. At right, air reservoir and cutting tools, nerve center of machine.

the form of crooked wood, too big or crotched wood. I hope to see the day when trees will be chipped in the woods and the chips hauled in big trailers to the mill.

"I'd also like to see a general acceptance on the part of the average land owner in accepting practical forestry for his woods. The country is growing big and with this population trend, we're going to have less and less lots for growing wood.

"We will be all right if enough people can be satisfied to grow trees commercially," he concluded.

In the Middle West . . .

In this area, too, all pulpwood producers interviewed by PULP & PAPER said the most important progress in the last 10 years has been the establishment of the chain saw and versatile power saws in the woods. Following this very closely is the important safety record that has been achieved by using safer and easier to handle equipment such as the saws. The woods people themselves have become more safety conscious, using hard hats, safety shoes, and so on, stemming from insurance requirements.

These loggers also say an important development is a light crane that is easily mounted to either a crawler tractor or a truck, and which can't be beaten for versatility and production, particularly in the Lake states. The only one with a patented hydraulic grapple is the Hiabob crane. The frame of the crane is imported from Sweden. A Minnesota manufacturer has added a gooseneck arrangement of the boom and has patented the

hydraulic grapple. This is a low-cost piece of equipment, adopted by many producers and many pulp and paper

companies themselves. Another example is the Hopto truck crane, also produced in Minnesota.

Mechanical and chemical debarking are important in the Midwest. It is pretty generally accepted that chemical debarking has not proved to be as economical as expected. Nekoosa-Edwards in Wisconsin, for instance, has discontinued chemical debarking of oak. But there is increased activity in some places of chemical debarking on certain species, such as aspen, but this is a small segment of wood production.

Men in the Lake states expect increased use of commercial fertilizers for standing timber.

For the future, it is predicted, there will be emphasis on larger production equipment, more costly equipment used in site preparation and more of it.

A remarkable new machine is being developed now in this area—a machine that will delimb and debark at the same time. ●

APA's EXECUTIVE SECRETARY SEES . . .

Possibility of manpower shortage . . . problems of increased taxation and regulation ahead

By W. S. Bromley
Executive Secy., American Pulpwood Association.

To me, the outstanding developments have been:

1—The increasing demand for pulpwood, an increase of more than 100% in 10 years.

2—Almost universal adoption of power saws for felling and bucking.

Other developments of great potential significance:

- Utilization of waste wood.
- Large scale clearing of land and tree planting coupled with intensive forest management.
- Pulpwood concentration yards in the South and their utilization of mechanized loading and unloading.
- Increased use of hardwood species.
- Chemical debarking processes and mechanized debarking of pulpwood prior to its reaching the pulp mill.
- Mobile radio communication.

- Increased mechanized logging and handling of pulpwood.

In the next ten years, I believe first that more of our time will be devoted to defense of pulpwood producers and consumers in fields of taxation and legislation. Our relations with governing bodies and government agencies will assume increasing importance.

Second, if our industry increases another 50% as predicted for the next 10 years, we may face acute manpower shortages.

Third, in a few regions, some mills may temporarily suffer shortages of pulpwood in softwood species at economic prices.

At present I am most concerned over meeting the problem of increased taxation and regulatory legislation.

The industry must jointly take actions to soften the impact of all these problems. The next 10 years promise to be lively but good years for the industry.



Sampling Soil in Southern Woods

WILLIAM R. SIZEMORE (left), Tallahassee, Ala., forester, retained as consultant by Weyerhaeuser Timber Co. to help develop the timberlands it purchased in Mississippi and Alabama for a future pulp and paper operation, is taking soil sample in hardwoods stand. Brush and hardwoods will be removed to increase pine growth. At right is BRUCE FERGUSON, Weyerhaeuser's woodlands manager in South.

What Weyerhaeuser is Doing in South

In Mississippi and Alabama, growth of shortleaf and loblolly pine is the objective of a reforestation effort by Weyerhaeuser Timber Co. This is on lands which Weyerhaeuser anticipates will eventually again be producing pulpwood to probably support a pulp and paper mill of the future at Columbus, Miss.

Weyerhaeuser has exercised options on 50,000 acres and holds options on 40,000 more—all on lands which have been heavily logged and/or burned.

Bruce Ferguson, who had valuable experience on the Pacific Coast developing new hardwood resources for Weyerhaeuser's semi-chemical pulping operations in Longview, Wash., has moved to Mississippi as manager of these woodlands for WTCO. He is son of Sydney Ferguson, former president and former chairman of The Mead Corp.

The Southern project started some months ago when Weyerhaeuser purchased its options from Mississippi Pulp and Paper Co., which never built a mill to use them, and other local owners.

Weyerhaeuser's manager of forestry, lands and timber, C. Davis Weyerhaeuser, said: "These lands have not



CHARLES H. CARPENTER, Little Rock, Ark., who helped to build Southland Paper Mills, and has been technical advisor on other pulp projects in South, is retained by Weyerhaeuser for development in Mississippi-Alabama reforestation project.

in the past been considered prime pulp producing lands by Southern standards. With an intensive rehabilitation program, however, we believe they can be brought back into fair productivity to ultimately support new local plant capacity.

Consulting forester William R. Sizemore, Tallahassee, Alabama, has been retained for this major rehabilitation

effort. The company will depend primarily on persons locally experienced with Southern pine forestry methods to bring the forest lands back into full production. The lands include shortleaf and loblolly pine stock. They have all been heavily logged. Some have been repeatedly burned. Weyerhaeuser will have to spend at least \$10 per acre for every acre purchased to re-establish their productive capacity.

The land presents a scattered, patchwork ownership. Included in the sale are 2,600 acres primarily suited for a plantsite. Although plans do not include immediate construction of pulping facilities, the lands are ideally situated for them. The Tombigbee River, which runs through the property, carries an adequate supply of good water to support a pulp mill operation. The plantsite includes acreage for large settling basins to retain pulp mill effluent during any periods of low water in the Tombigbee River.

Columbus, a town of 26,000 population, is served by four railroads, the Gulf, Mobile and Ohio, the Columbus and Greenville, the Southern and the St. Louis-San Francisco. In addition to the railroads, the area is well served by a network of roads and highways.

Weyerhaeuser has retained industrial consultant Charles H. Carpenter, Little Rock, Ark., who helped in technical aspects to build Southland Paper Mills, to counsel the company in development of the purchased properties. ●

Even Women Are Getting Into Pulpwood Business

A PULP & PAPER editor at Filer City, Mich., was surprised to see a woman drive up to American Box Board's weighing station with about three cords of 8 ft. hardwood logs on a Ford truck, and then stand by in the yard while a crane unloaded her truck.

Lorraine Savich, Freesoil, Mich., drove 15 miles with the load. She said she and two sons, 12 and 15, help her husband. They have been cutting hardwood for 11 years for pulp on their land, using a McCulloch power saw, and a tractor to pull logs on a trailer to the truck. This is their sole means of support.

The company said she is just one of two women who bring in wood.

Over 12,000 Radios

Over 12,000 licensed mobile radios are currently used in the forest products industry according to Robert Olin, of Potlatch Forests Inc., Lewiston, Ida., chairman of Forest Industry Radio Communications.



New Barker Permits Use of Smaller Logs . . .

Widens Wood Resource for Kraft Mill

Nicholson barker at Port Townsend, Wash., adjusts automatically to handle logs down to 4 in. diameter, or up to 16 inches maximum . . .

. . . Before the new barking equipment was installed, this Crown Zellerbach mill was unable to effectively debark farmer wood with four to six-inch diameters.

Inclined chains convey logs from storage onto variable speed feed chains that take them into the Nicholson barker. As the logs enter the machine, the barker ring adjusts to the diameter of the log and sets scraper blades for that dimension.

The barker ring, driven by a 40 hp., 1200 rpm electric motor, whirls three scraper blades around the log at 120 rpm, stripping the log as it rotates. The blades, each three in. wide, cover a seven in. area with each revolution.

In normal operation, the barker's lineal production is calculated at about 90 f.p.m. This is about 12 cords per hour, based on an average of forty 100-in. logs per cord.

Although the machine can handle logs up to 20 ft. in length, the Port Townsend mill is using 100-inch farmer wood from nearby tree farms. Production plans call for running about 200 cords of farmer wood per day.

The result will be an expanding market for small logs thinned from the fast-growing young Douglas fir forests of Jefferson, Clallam and Kitsap Counties. In anticipation of this

market, Crown Zellerbach has started a thinning program on its new 27,000 acre Olympic Tree Farm as intensive as any in western Europe. Company foresters expect to thin all stands 40 years of age and older at three-year intervals. Over a normal 65 to 70 year growing cycle, they say this kind of management will boost the tree farm's wood yield 50% per acre.

In recent years the Fort Townsend mill has relied on sawmill leftovers brought in by barge from Puget Sound and British Columbia sawmills for 99.97% of its wood (see PULP & PA-

PER, Nov. 1956, page 72). Eventually, small logs and other salvage wood will make up about 12% of the mill's wood supply.

Tree Farm Dedication

The Olympic Tree Farm dedication Aug. 27 drew dignitaries from far and wide. Harold L. Zellerbach, chairman of the executive committee, CZ, received the tree farm certificate from Arnold L. Brandis, vice president of the Industrial Forestry Assn., and retired logging manager for Longview Fibre Co. It was Crown's 12th tree farm in the Pacific Northwest.

Loggers, foresters and tree farmers plus representatives of TV, press and state and federal forestry agencies were on hand to watch the ceremony and to look over an interesting demonstration plot at the dedication site. Leo Ziel, resident manager, and his staff, and Ralph Dickey, CZ regional sales manager, conducted tours through the mills.

Crown has owned young-growth timber lands that make up the Olympic Tree Farm for many years. They've paid protection costs and taxes. Now with years of thinning experience behind them (notably in the Columbia river area where paper production in CZ mills has increased greatly in the last dozen years) CZ is embarking on a long-range program of wood.

Perhaps the most significant statement made during the dedication was by Ed Stamm, Crown's retiring timber operations vice president. He said farmwood purchases have increased greatly and this trend should continue. What CZ is doing is gradually reducing chip-buying and rapidly increasing consumption of logs. "No tree farmer, in his enthusiasm to grow better timber crops, can afford to forget his markets," said Mr. Stamm. "Without markets, there can be no real purpose to tree farming."

News Briefs In the Forest Industry

A Dept. of Agriculture report on timber resources in Arkansas issued recently shows that pulpwood production has increased seven times since 1936.

From 112,000 cords in 1936, production of pulpwood has jumped to 877,000 cords in 1955. With new expansions at Pine Bluff and elsewhere, this figure is expected to increase even more in the next two or three years.

Forest-based enterprises in the state include more than 1,000 sawmills (including two of the largest in the South—Crossett Lumber Co. and Olin Math-

ieson's new mill at Huttig) and nearly 200 non-lumber timber-using plants, among them pulp mills, cooperage plants and others.

Study of balsam woolly aphids, tiny European insects now threatening true fir forests in Oregon and Washington, has been undertaken at Oregon State College in a cooperative research project with USFS Pacific Northwest Forest & Range Experiment Station. The aphid is reported in epidemic stage in Pacific silver fir and subalpine fir in these states. A 1956 Forest Service estimate places the infestation area at 356,000 acres.



PICKING FROM STOCK PILE (top) and swinging around to unload in a conveyor beyond the flat cars, is the big 700 Series American Crane owned by Rome Kraft Company. This conveyor carries the wood to debarking drums, then to storage. The American Crane also loads the debarked pulpwood from its storage pile into a conveyor supplying chippers. This operation demands maneuverability! Maintaining a continuous supply of pulpwood to conveyors demands fast, smooth operation.

FAST, MOBILE CRANE HANDLES PULPWOOD IN ROME KRAFT YARDS

Thousands of cords of pulpwood daily move through the huge wood yards of Rome Kraft Company in Rome, Ga. Coming in by rail and truck, the wood is stockpiled or unloaded directly onto conveyors that carry it into the plant for conversion to Kraft paper.

To help move this tremendous volume of pulpwood, Rome Kraft Company recently added a second American Crane, a 700 Series with orange peel bucket. Up to 1800 cords of wood are handled daily by the American 700 Series Crane and an American Locomotive Crane!

Pace setter on every big materials handling job, the powerful American 700 Series is specially engineered from crawler pads to boom tip to eliminate unnecessary dead-weight. As a result, the machine offers an unusually high work capacity in relation to total weight. Operators set peak production rates and maintain them throughout the day, every day, because trigger fast air controls provide hairline load spotting accuracy with finger tip pressure! Consistently lower costs . . . for operation and maintenance . . . are proved by job records of 700 Series owners in every industry.

Your nearest American Distributor will be happy to explain why American Cranes are tops in performance and versatility—he has detailed information on a complete line of crawler and truck cranes that offer capacities from $\frac{1}{2}$ -yard, 12½ tons up!

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TABLE ROLLS AND BEARINGS—Rubber covered table rolls with alloy steel journals. Thrust type ball bearings secured in vulcanized rubber shock absorbing bushings. These are mounted in bronze housings equipped with positive water seals arranged for easy removal and adjustment.

RAILS—Stainless steel clad rails mounted on stainless steel leaf springs.

SUCTION COUCH—Cantilever type Manchester suction couch roll with anti-friction bearings.

FLAT BOXES—Stainless steel flat boxes.

SHAKE MOTION—Manchester Bertram type shake.

Another Advanced Fourdrinier *completely designed and produced by Manchester*



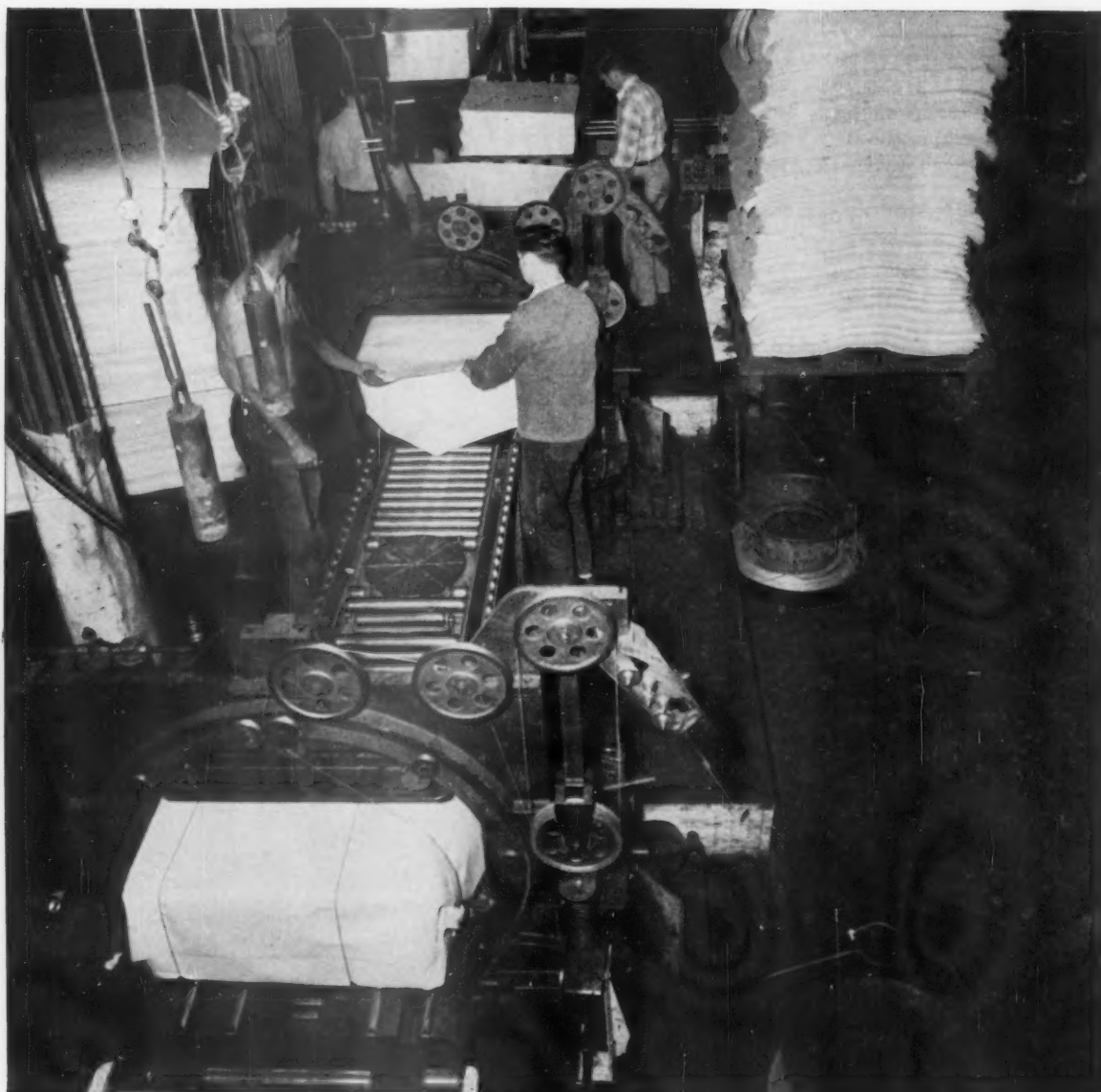
The Manchester Fourdrinier is complete with forming board, deflectors, wire stretch, and wire guide and return rolls. Fourdriniers can be supplied cantilever or roll-out type or conventional stationary type. Write for more information.

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MIDDLETOWN, OHIO



Pulp baling costs halved with Signode automatic wire tying machines

Costs at this major producing plant are half what they were with hand tools for tying, and the work is easier. The two Signode Model HW automatic wire tying machines in this installation each place and tie two wires around the bundles of chemical wood pulp. The turntable between the machines turns each bundle 90 degrees. Maximum machine speed is 26 ties a minute. All operations are automatic except for application of

the outer pulp wrapping sheets, shown stacked at each side of the line.

Continuous operation—night and day, seven days a week—puts a premium on the famous dependability of the Signode machines that are a key part of this efficient installation.

For information about automatic wire tying machines that will cut costs for you, write:

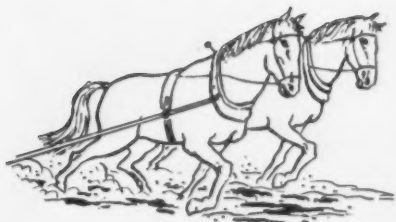


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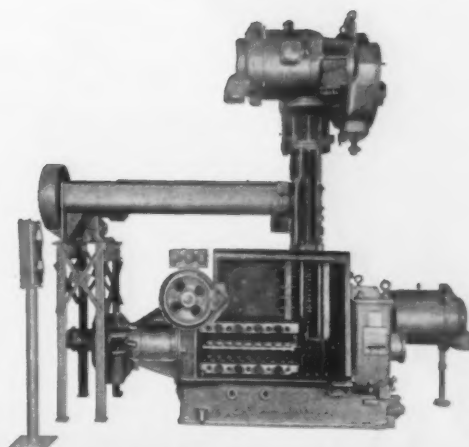
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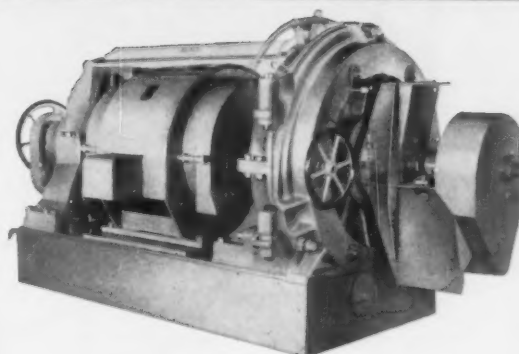
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The Perfect Team for semi-chemical CHIP FIBERIZING and the REMOVAL OF DISSOLVED SOLIDS



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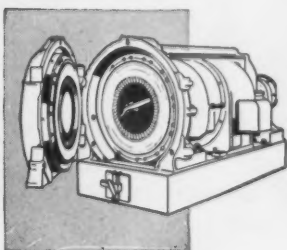


The perfect team for separating soluble solids and black liquor from semi-chemically cooked chips and for pulping is the SW-Anderson FiberPress and the Sprout-Waldron Pulp Refiner. They give you outstanding advantages over any other method.

1. More complete removal of black liquor and dissolved solids from chips in the two pressing stages of the FiberPress.
2. More complete fiberizing due to the method of transferring fiber from the vertical to the horizontal pressing stages in the FiberPress.
3. The choke-jaw design provides simple control of pressing without danger of plugging—a patented feature.
4. The strong, clean pulp produced makes the best paper and paperboard—bleached or unbleached. Let us prove this to you.
5. Pre-refining action reduces refining power requirements as much as 40%.
6. At least 10% higher production capacity with the same horsepower input.
7. No charring of chips or fiber when shutting down the FiberPress.
8. Simplest mechanical design and lower replacements parts cost.
9. Waste liquor removal lengthens wire and felt life.

To beat the stream pollution problem and to produce the finest semi-chemical pulp, install the S-W Anderson FiberPress and Sprout-Waldron Refiners in combination or separately. The FiberPress can be installed ahead of your present refining equipment. For complete details, write to Sprout, Waldron & Co., Inc., 32 Logan St., Muncy, Pa.

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Water resistance—Extremely resistant to water washout.

High temperature stability—RYKON Greases have an ASTM dropping point of 480° F. They have exceptional heat stability.

Resistance to change—RYKON Greases remain soft and grease-like at sustained high temperatures, continue to give thorough lubrication.

Low temperature stability—RYKON Greases work readily at low temperatures, lubricate from a cold start.

Oil separation—RYKON Greases exhibit strong resistance to bleeding.

Rust preventive properties—RYKON Greases demonstrate superior natural qualities in prevention of rust.

To meet specific grease lubrication problems, greases in four Regular and three Heavy Duty grades are available. With a single RYKON multi-purpose grease doing all jobs in the plant, there's no wrong grease to use. Money invested in grease inventories is cut, storage and application facilities are reduced. Maintenance training is simplified.

Get the facts about RYKON Greases from the industrial lubrication specialist at the Standard Oil office nearest you in any of the 15 Midwest and Rocky Mountain states. Or write Standard Oil Company, 910 South Michigan Avenue, Chicago 80, Illinois.



**STANDARD OIL
COMPANY**
(Indiana)

*For overhead
stock and
process lines...*

Specify **Transite
Pressure Pipe for
these 3 basic
advantages...**

- 1. Low installed cost**
- 2. Pumping economy**
- 3. Clean lines**

1. With Transite® you can count on savings in installed costs. Transite's versatility enables you to meet the requirements of any stock preparation system. Standard installation practices are employed and a wide variety of Transite-lined fittings afford complete flexibility of design.

2. Pumping costs are low. Transite maintains a smooth interior to assure lasting pumping economy. The joints, too, are designed for smooth flow.

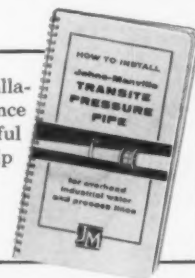
3. Keeps stock clean. Transite being nonmetallic will not rust. The joints also are designed so that no metal comes in contact with stock or solution. Thus water and process liquids can't pick up rust, impurities or unwanted color. For Transite (durable asbestos-cement) resists sliming and bacterial growth as well as corrosion. This cleanliness, characteristic of Transite, gives you an added advantage: minimum maintenance and cleaning costs.

Let us send you a copy of the new installation guide. Write to Johns-Manville, Box 14, New York 16, N.Y. In Canada, Port Credit, Ontario.



Transite stock preparation system
in a West Coast Kraft mill

Free . . . New 48-page installation guide. On-job experience from hundreds of successful Transite installations to help you plan and erect the proper Transite Pressure Pipe System.



Johns-Manville TRANSITE PRESSURE PIPE
AN ASBESTOS-CEMENT PRODUCT

What we think about

CHLORINE DIOXIDE BLEACHING

First, to be quite frank, we think it is your business and yours alone to decide whether chlorine dioxide is the best bleaching agent for your paper products.

Second, it is again your business and yours alone to decide which among the half-a-dozen generating methods is most economical for your bleaching.

When you have made these two basic decisions, we can be of help four ways:

One. Both in the East and in the South we can provide the fastest sodium chlorate service available.

Our Niagara Falls plant is the largest producer of sodium chlorate in the country.

Our Columbus, Mississippi plant is now expanding its production facil-

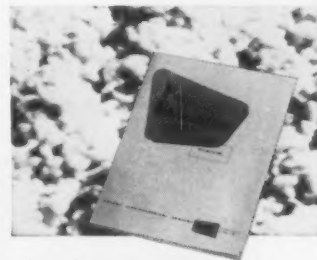
ities by 5,000 tons a year after just completing expansion by the same tonnage last year.

Two. We can give you skilled technical help whenever you need it, *regardless of the process you use.*

Three. We can give you a uniform and pure product—99.5% pure at minimum.

Four. We can give you all around bleaching service and the understanding of your problems that can come only as the result of more than fifty years of experience serving the pulp and paper industry.

If you are contemplating the installation of a chlorine dioxide bleaching unit (or have one in service), and if this program makes sense to you, we will be interested in hearing from you. Perhaps we can help.



New Manual on Pulp Bleaching

Chlorine dioxide bleaching is just one of 11 subjects covered in this new 60-page Hooker manual on pulp bleaching. Flow charts, price and process comparisons, equipment specifications, handling methods, and references to the technical literature. Send this coupon for a copy.

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Company.....

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City.....Zone.....

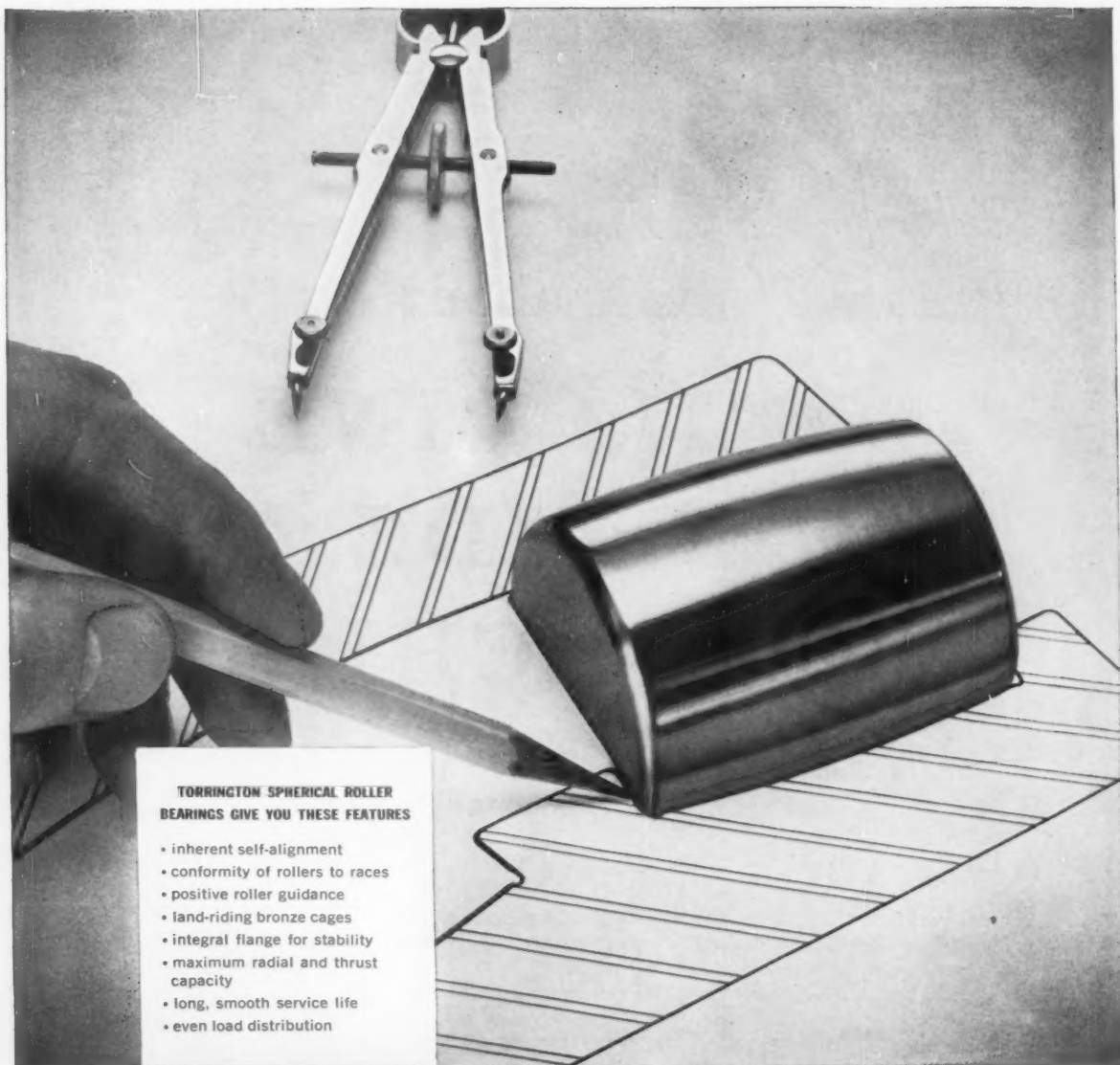
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HOOKER ELECTROCHEMICAL COMPANY

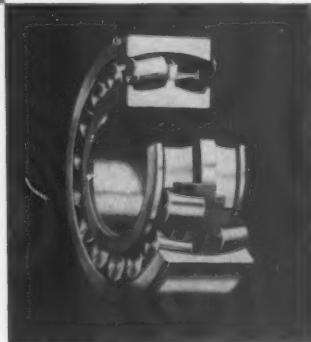
1910 Forty-seventh St., Niagara Falls, N. Y.

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TORRINGTON SPHERICAL ROLLER BEARINGS GIVE YOU THESE FEATURES

- inherent self-alignment
- conformity of rollers to races
- positive roller guidance
- land-riding bronze cages
- integral flange for stability
- maximum radial and thrust capacity
- long, smooth service life
- even load distribution



Mated perfectly ~ for life!

Make a point to notice the roller end and center guide flange in a Torrington Spherical Roller Bearing. The perfect mating there means a smoother, longer bearing life.

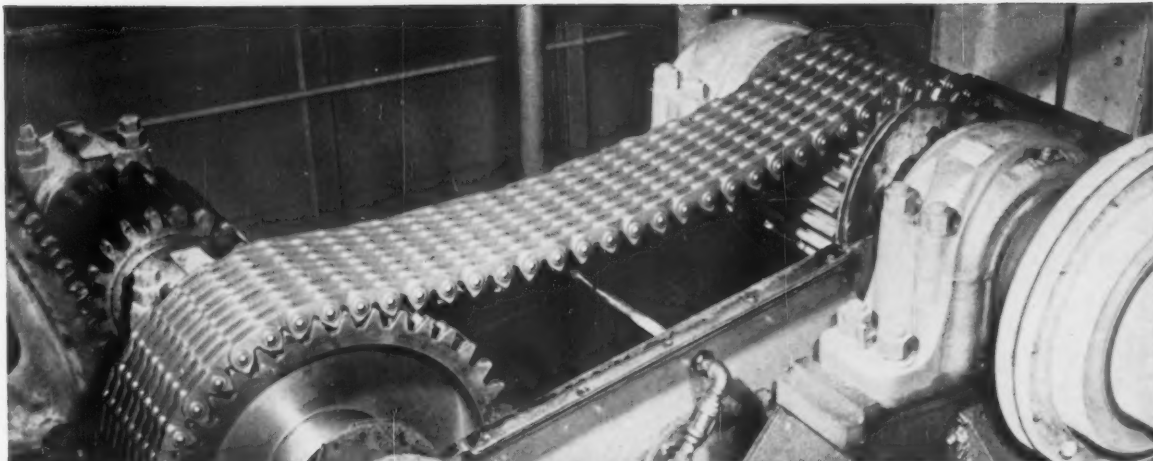
Roller end and flange surfaces alike are ground to a common spherical radius centered on the common vertex of bearing axis and roller axis. Under all load conditions, the rollers bear lightly but constantly against this flange. This guides the roller positively with minimum friction and prevents skewing. Stress concentrations leading to early failure are avoided, so the bearing will serve you many good turns longer.

This is the kind of feature Torrington builds into its bearings out of its experience with all major types serving in all kinds of equipment. Care for such details is matched only by our care in mating the *right* bearing to the *right* job. In this, your Torrington representative is an expert: call on him when you need help. *The Torrington Company*, South Bend 21, Ind. — Torrington, Conn.

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District Offices and Distributors in Principal Cities of United States and Canada

SPHERICAL ROLLER • TAPERED ROLLER • CYLINDRICAL ROLLER • NEEDLE • BALL • NEEDLE ROLLERS • THRUST



HIGH SPEED. Traveling at speeds as high as 5000 fpm, silent chain drives readily accommodate the extreme peak loads without losing their better-than-98% efficiency.

How LINK-BELT silent chain drives survive industry's roughest requirements

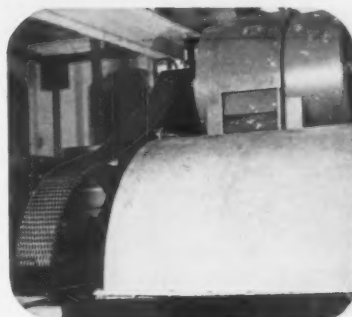
Would your drives do as well?

On applications like these and scores more, no other type of drive is the equal of Link-Belt silent chain. Ask your Link-Belt office or authorized stock-carrying distributor for comprehensive 88-page Book 2425.

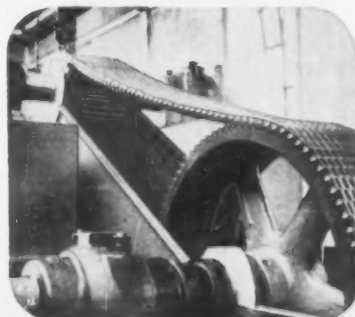


SILVERSTREAK SILENT CHAIN DRIVES

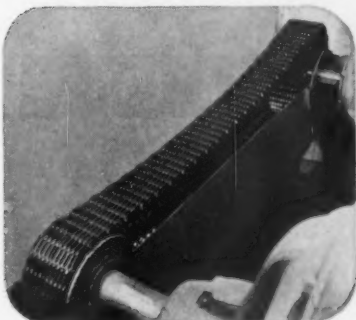
LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office: New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville (Sydney), N.S.W.; South Africa, Springs. Representatives Throughout the World. 14,079



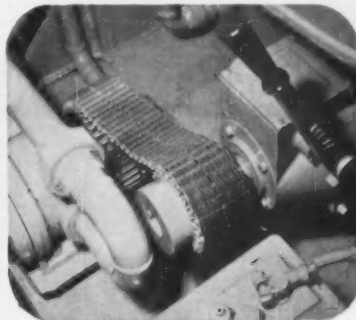
LARGE OR SMALL HP. On a 300 hp drive like this or at fractional hp, silent chain is always lower in ultimate cost.



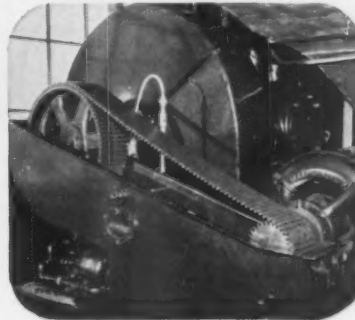
LARGE RATIOS. Link-Belt silent chain operates efficiently on extremely short centers at ratios as high as 10-to-1.



ADVERSE OPERATING CONDITIONS. Heat, humidity and cold have little effect on Link-Belt silent chain drive performance.



LIMITED SPACE. Easy to assemble in close quarters, Link-Belt silent chain permits built-in drives, compact housings.



LONG LIFE. This drive is 16 years old and still going strong. Not unusual—many others have lasted twice that long.



Part of the pulp and paper industry's efforts to improve forest output is to produce trees that will grow faster and deliver a greater, higher quality pulp yield. This forester is shooting down choice quality seed from the top of a selected tree.

Drawing a Bead on a Seed

PULP & PAPER magazine draws its bead—a mighty sharp editorial bead—on a great, sound, growth industry: pulp and paper. When important things happen in this field, editors are on the spot to interpret and report them.

These editors are a group of aggressive, agile, fast-moving men, a "scoop" doesn't mean everything to them. Their main interest is in producing a thoughtful, interpretative story that will provide industry's management and production men with information they need.

PULP & PAPER editors seek background facts—they collect them by the file case. But they are gregarious, too, and spend

time visiting with key industry leaders who are "in the know".

A PULP & PAPER editor is usually the first man on the scene of an important industry development (PULP & PAPER has the largest editorial staff in the field). But more significant is the fact that he is there longer and usually the last to leave because he understands the importance of every detail that helps develop a worthwhile story.

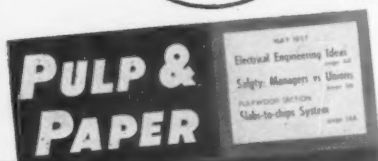
This alertness to the needs of the reader—to provide him with the type of interpretative information *he needs to know* is another reason why PULP & PAPER is a lively, accepted spokesman for its field.



It isn't enough for PULP & PAPER to have the finest paid circulation in the field. Only the copies that get read while the issue is current are working for the advertiser. It takes editorial alertness to get the readers inside the covers as promptly as possible, issue after issue. PULP & PAPER is the only publication in its field that has a continuing check, through Eastman Editorial Research, on this effective circulation.

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PAPER**

top coverage
of America's
third largest industry

for helpful market information write or phone the nearest Miller Freeman office

GOT A PROBLEM

in water treatment...

FOR your mill

If your process waters pose problems of clarification... color removal... lime softening... or your boiler waters require hot process softening... ion exchange... demineralization...

- ... whether yours is an existing or new mill...
- ... let INFILCO's long experience and familiarity with the pulp and paper industry's needs show you the way to increased profits, greater production efficiency!
- ... rugged, dependable, accurate chemical feeders and slakers! (Send for Bulletins #215, 217, 250, 350).
- ... for constant or proportional rate operation!
- ... clearer water faster, up to 80% savings in space with... ACCELATOR* clarifiers! (Send for Bulletin #1825).
- ... soundly designed gravity and pressure filters! (Send for Bulletin #1825).
- ... ion exchangers and demineralizers! (Send for Bulletin #1960).



ACCELATOR
CLARIFIER

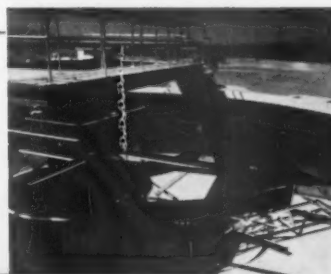


LIME FEEDER
& SLAKER

FROM your mill

If suspended fillers, fibres, chemicals create problems of re-use or pollution...

- ... INFILCO savealls assure you of more profitable operation by reducing your material and heat losses!
- ... let us tell you about CYCLATOR* treating plants (Bull. #850)
- ... SEDIFLOTOR* flotation savealls (Bull. #6051)
- ... INFILCARB anthracite filters for green or white liquors
- ... simplified causticizing systems
- ... and many other types of profit-making equipment!



SEDIFLOTOR UNIT

INFILCO INC.

General Offices: Tucson, Arizona

The **one** company offering equipment for
all types of water and waste treatment

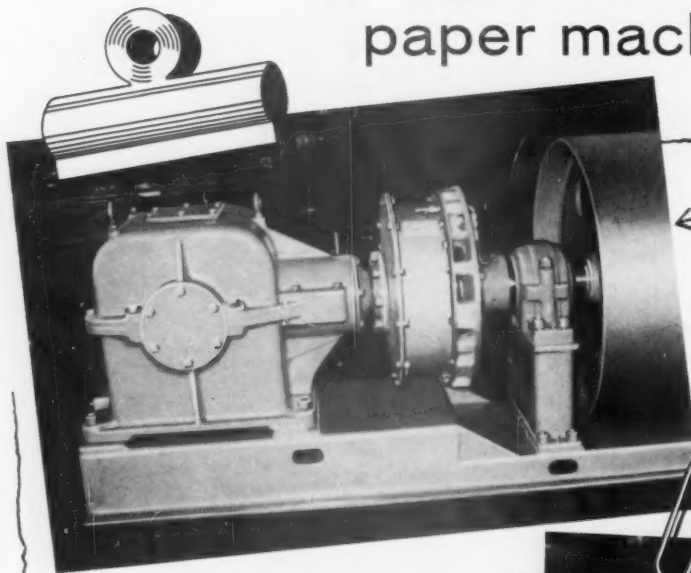
Field Offices throughout the United States
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*REG. U.S. PAT. OFF.



Serving the pulp and paper
industry with water conditioning
equipment geared to
today's competitive conditions!

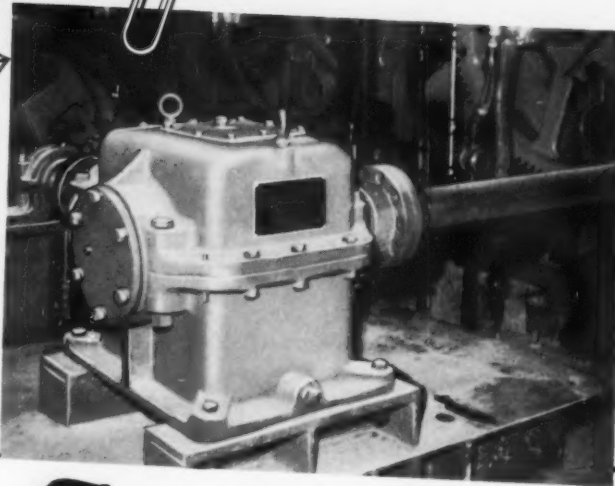
how a paper manufacturer improved production, reduced maintenance with **WESTERN GEAR** paper machine drives



← Western Gear furnished two new calender drives for the Crown Zellerbach Camas, Washington division consisting of a right angle speed reducer, Cone pulleys for both the machine floor and line shaft and air operated clutches. The replacement of old style bevel gears will materially reduce maintenance problems and permit better production control.

→ Eleven Western Gear right angle spiral bevel speed reducers were chosen to drive the modernized paper machine at Crown Zellerbach Lebanon, Oregon division. Production was substantially increased because of greater drier capacity and stepped-up machine speed contributed by the Western Gear spiral bevel speed reducers.

We are very proud of Western Gear's widespread acceptance by major paper manufacturers, who come to us for quality power transmission equipment.



CLIP AND SAVE

Glenn Malme • WESTERN GEAR CORPORATION
P. O. BOX 182, Lynwood, California

☐ Send name and address of my nearest "Western Gear man."

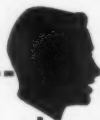
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Use the adjoining coupon to get his name and address.

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Now... Pine Bluff, Ark.

GENERAL CHEMICAL builds new liquid alum facilities to serve industry

With the building of its new liquid aluminum sulfate plant at Pine Bluff, Ark., General Chemical makes another important addition to its facilities producing dry or liquid alum in the major consuming areas listed above. All are conveniently located...geared to serve your alum needs steadily and dependably.

The Pine Bluff plant will be

the first alum plant in Arkansas. Located in the heart of a rapidly expanding manufacturing center, it provides one more example of how General Chemical seeks to keep pace with industry's growing requirements for alum and other heavy chemicals. For information on how we can serve you, write or phone your nearest General Chemical office listed below.



GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

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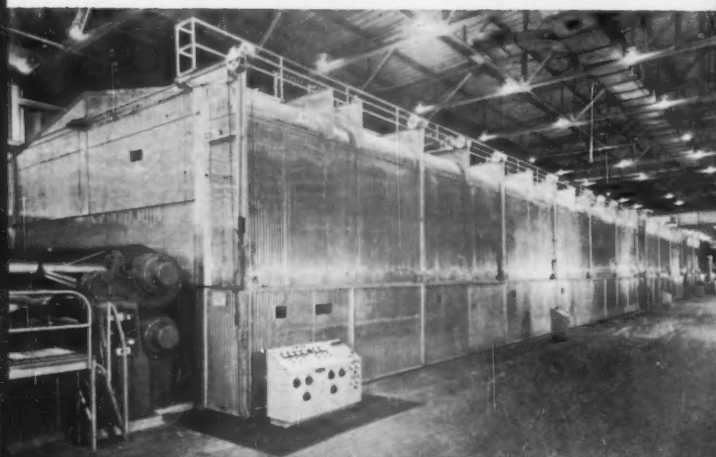


Engineered Atmospheres for Better Processing

ENGINEERING CONSTRUCTION

...consistently sound

...consistently durable



ROSS-HOOPER totally enclosed hood showing end and side panels. Side panels rise automatically in case of break.

In a very real and practical sense the words AIR and ROSS are synonymous. To these could well be added the phrase SKILLED ENGINEERING.

Since the early twenties Ross Engineers have been serving your industry in connection with the ever increasing use of air. They were among the first to demonstrate the importance of skilled engineering in the application of air to the production of pulp, paper and board. Four basic values have always been their targets: better end product, lower production costs, lower maintenance, and last but by no means least, better working conditions.

This calls for an understanding of the several important related variables and how to weld them into an efficient AIR SYSTEM. It calls for an understanding of temperatures, humidities, dew points, pressures, circulation, contact areas, heat removal and how to coordinate all these controlling factors.

Perhaps it is an appreciation of these skills and of the single overall responsibility of engineering, construction and installation that has led to the great preponderance of ROSS Air Systems throughout the industry. Perhaps it is an appreciation, too, that it is risky business not to see to it that the best talent available takes charge of these problems.



Exhaust units on roof.

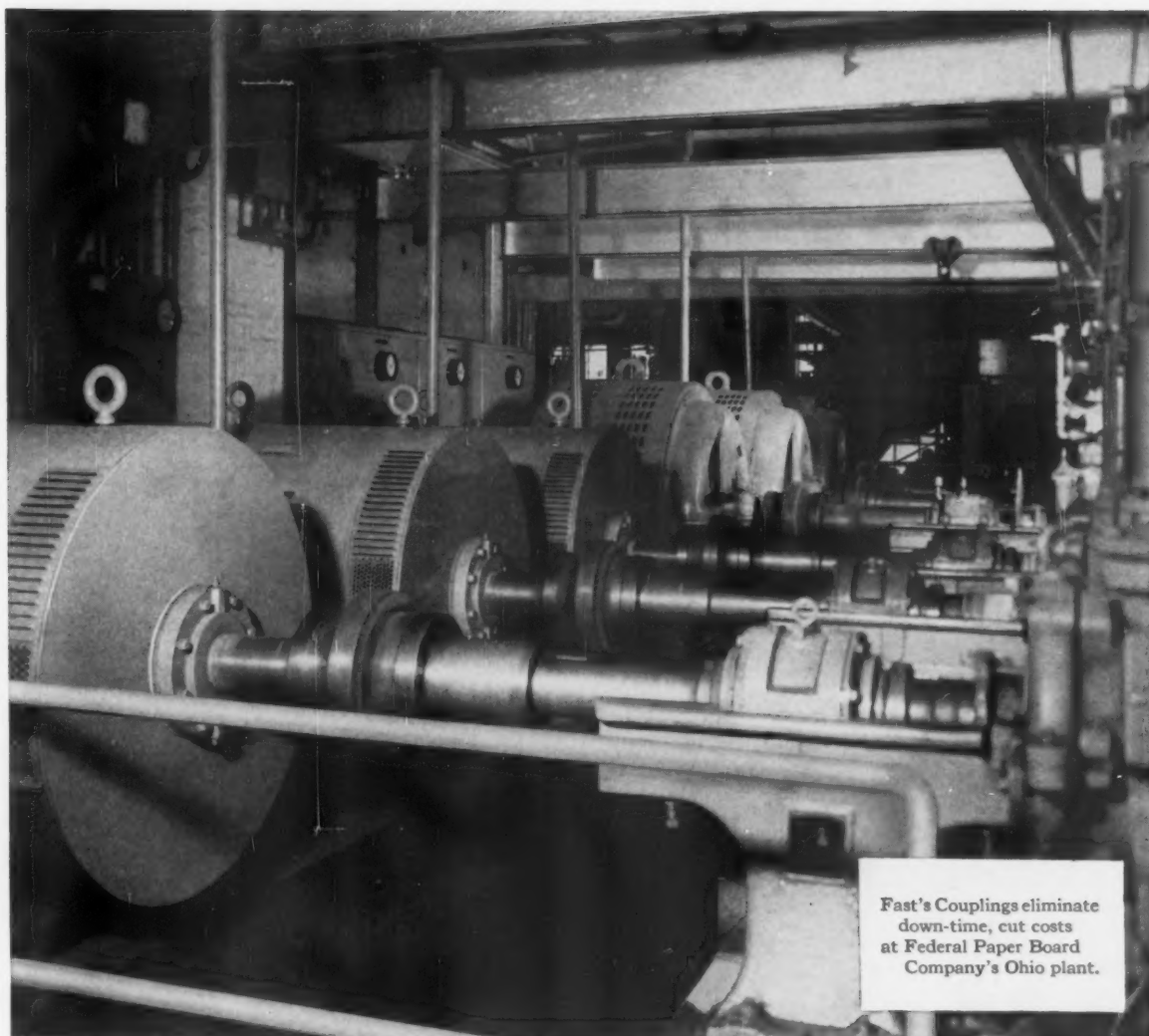
In the conversion of paper and paper board—waxing, embossing, coating, gumming, laminating, printing, web conditioning—Ross Engineering is associated with John Waldron Corporation, New Brunswick, N. J. to coordinate the machinery with the air-processing.

THE ROSS GROUP OF COMPLEMENTING SERVICES

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Fast's Couplings eliminate down-time, cut costs at Federal Paper Board Company's Ohio plant.

Federal Paper Board Company has specified Fast's Couplings since 1944

In 1944, the Steubenville, Ohio, Mill of Federal Paper Board Company installed three #5 Jordan-type Fast's Couplings to obtain maximum power transmission with minimum down-time. In 1946, this firm installed three additional #5 Fast's Couplings. Again in 1950, Federal Paper Board Company specified Fast's Couplings, three #4½ Jordans.

Recently, Mr. R. J. Quinn, master mechanic of this plant, stated: "Not one of these Fast's Couplings has given us any trouble whatever. They're

absolutely essential to our plant production. If these Fast's Couplings failed, our plant would be forced to shut down." Mr. Quinn uses many other standard Fast's Couplings throughout the plant, and is completely sold on them.

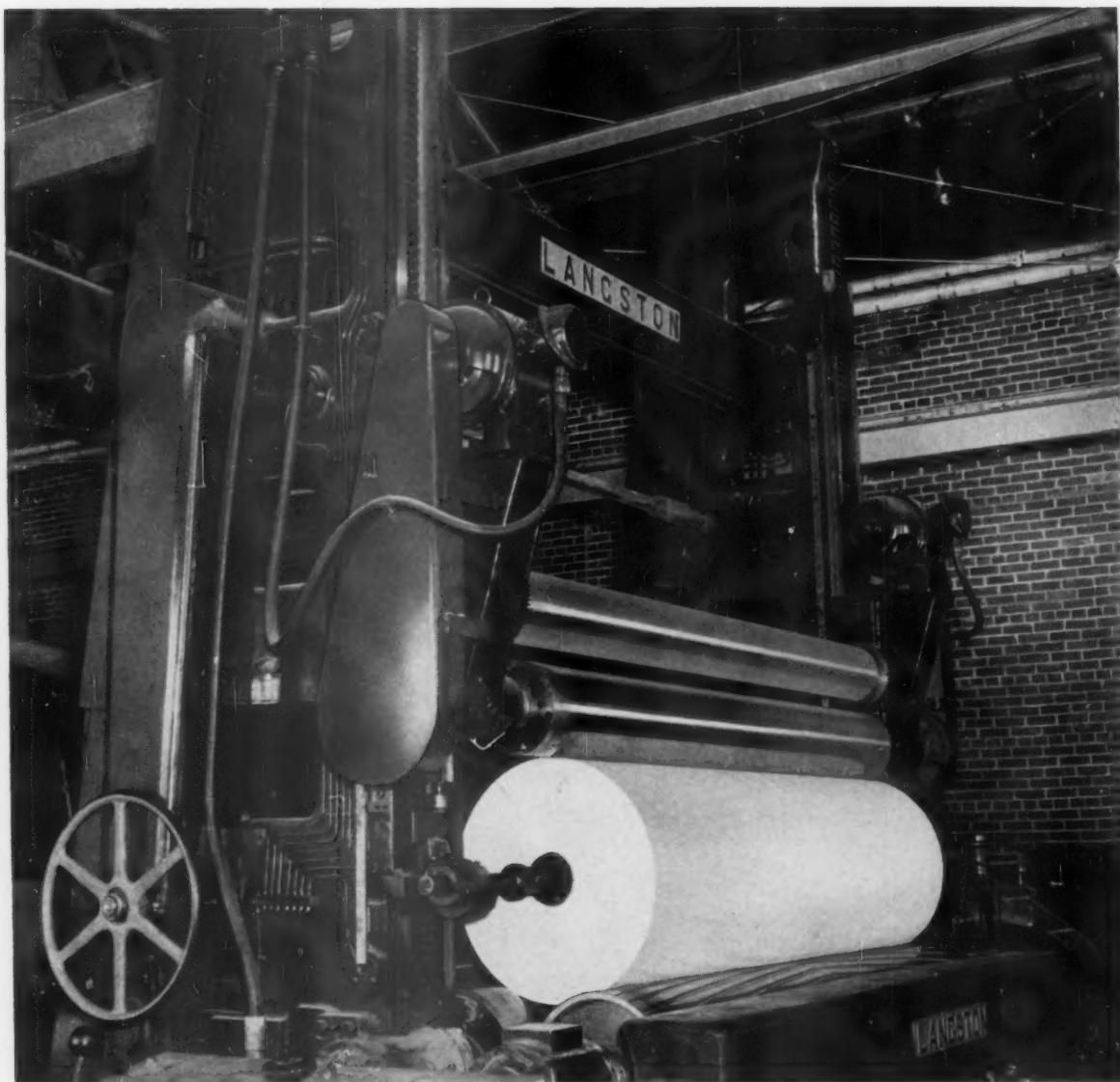
There's a Fast's Coupling for every power transmission application. Remember: *Fast's Couplings usually outlast the equipment they connect.* For catalog write to: KOPPERS COMPANY, INC., Fast's Coupling Dept., Metal Products Division, 2710 Scott Street, Baltimore 3, Maryland.

Engineered Products
Sold With Service



THE ORIGINAL

FAST'S Couplings



Langston Slitter and Winder features precision roll density control

Here's a way for you to get uniform roll density from the core to the outside. This type "DH" Slitter and Winder features hydraulic rider roll control that automatically adds or subtracts rider roll weight.

This arrangement makes it possible to constantly maintain correct nip pressure to compensate for the changing diameter and weight of the rewound roll. A simple valve permits setting the correct rider roll

weight for various grades and basis weights of both paper and board.

Pushbuttons for raising and lowering the rider roll during threadup replace complicated chains, sprockets, and bulky counterweights, thus speeding up production by reducing setup time.

Learn more. Write SAMUEL M. LANGSTON Co., 6th & Jefferson Sts., Camden 4, N.J.



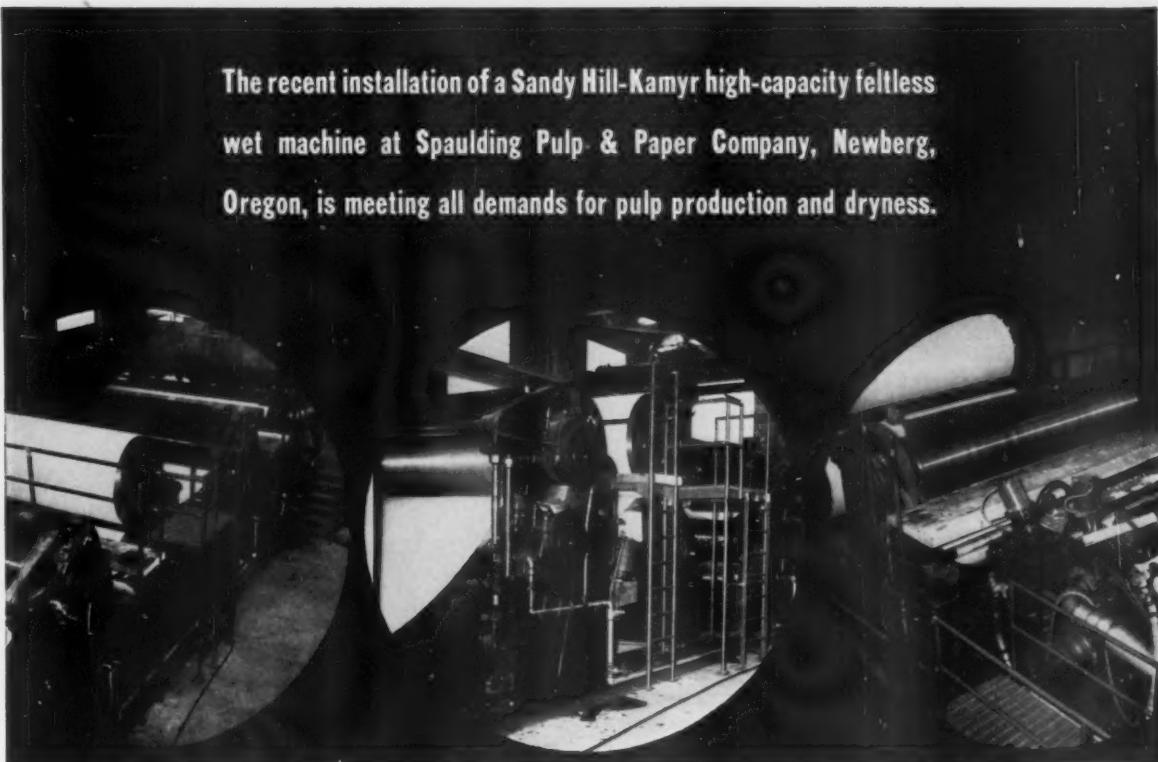
LANGSTON

Leadership...by design

SPAULDING CHOOSES KAMYR FELTLESS WET MACHINE

for higher production, drier pulp

The recent installation of a Sandy Hill-Kamyr high-capacity feltless wet machine at Spaulding Pulp & Paper Company, Newberg, Oregon, is meeting all demands for pulp production and dryness.



KAMYR Wet Machine Installation at Spaulding: From the Press end, Press Section, and from the Mould end.

Another Kamyr—to be the world's largest Wet Machine—is now being fabricated at Sandy Hill under exclusive Kamyr patents, and will go into operation in 1958 in a mill of one of the country's largest producers of bleached kraft pulp.

Write for KAMYR WET MACHINE Section of forthcoming Sandy Hill Centennial Catalog



THE
SANDY HILL
IRON AND BRASS WORKS
HUDSON FALLS, N. Y.



**BOWATERS HIGH SPEED
REWINDERS RUN NEWSPRINT AT
SPEEDS APPROACHING 6000 F.P.M.**

One Reliance Driven Beloit Rewinder keeps pace with each of the 2200 fpm. newsprint machines at Calhoun, Tennessee. Plus performance from Reliance V+S Drives help two rewinders do the job . . . most mills need three.

These two Bowaters Southern Paper Corporation rewinders were designed to operate at 5000 fpm. Today Bowaters is rewinding at speeds close to 6000 fpm., a 20% increase over designed capacity. This extra performance is typical of Reliance Products.

For complete details on this application write for Bulletin L-2506.

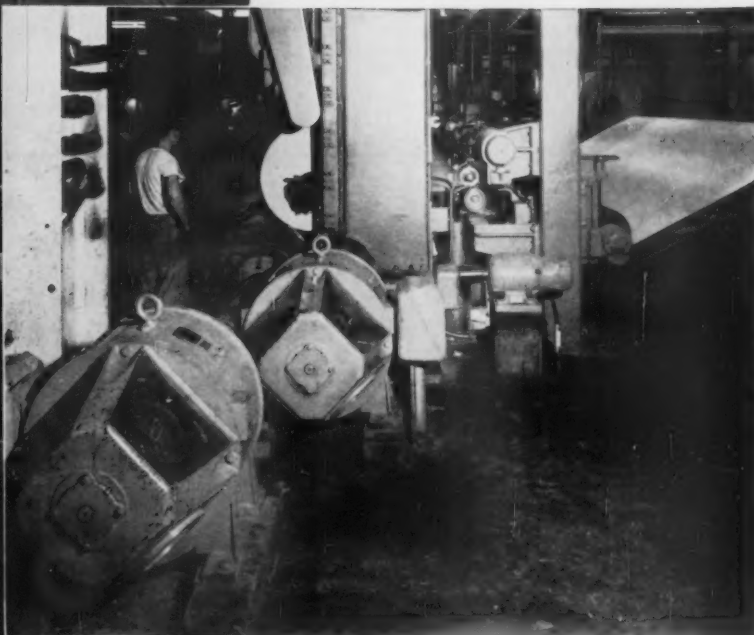
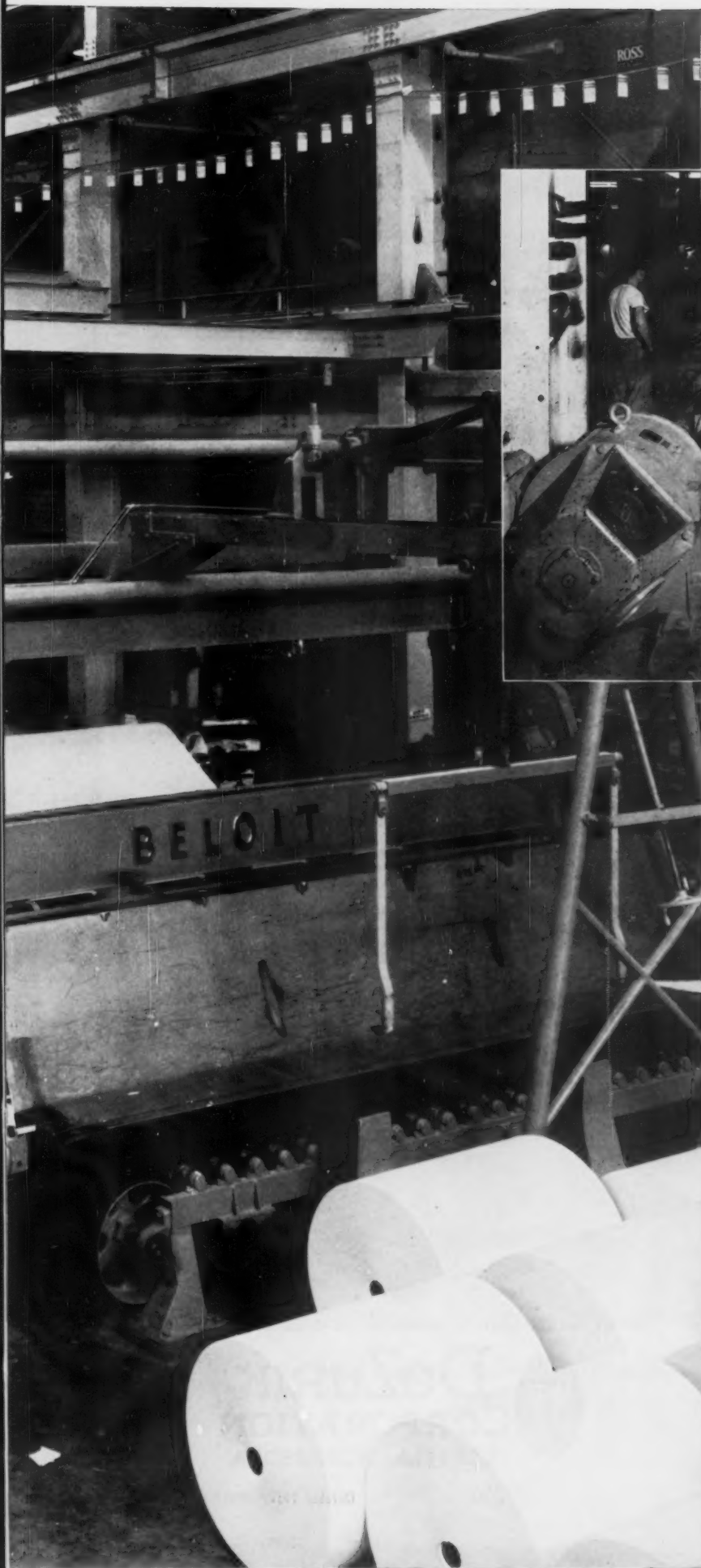


**RELANCE ELECTRIC AND
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DEPT. 178A, CLEVELAND 17, OHIO • CANADIAN DIVISION: WELLAND, ONT.

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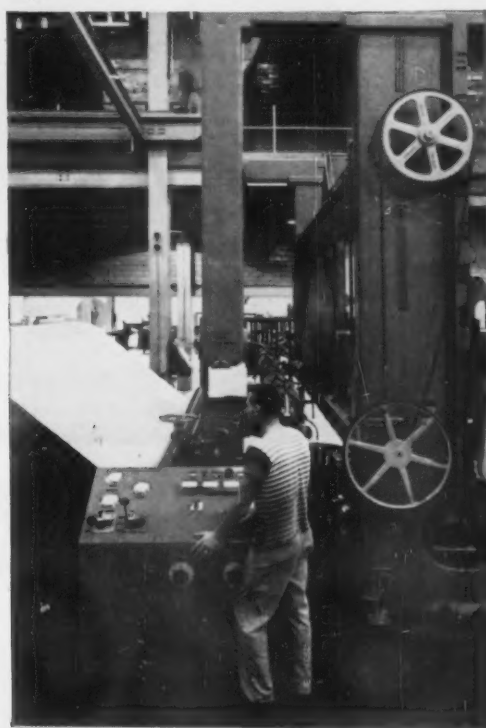
A-1208



Two 75 hp. d-c. motors drive each rewinder. These motors are capable of momentary overloads of 200% and more. Packaged controls are located in cabinets away from the machine room floor.

Rewinder on #2 machine.

Console for #2 rewinder gives the operator a clear view of the entire winding operation. A turn of the hand wheel changes winding speeds. Acceleration and deceleration rates are automatically programmed by Reliance electronic regulators.



CHECK THESE FEATURES OF DeZURIK CONSISTENCY REGULATORS

✓ ACCURATE CONTROL

DeZurik Regulators are guaranteed to hold paper and board furnish consistency to within limits of plus or minus .1%. Many DeZurik Regulators in operation directly ahead of paper machines are holding consistency to plus or minus .02%! Response is instantaneous to changes in incoming stock.

✓ SIMPLE ADJUSTMENT

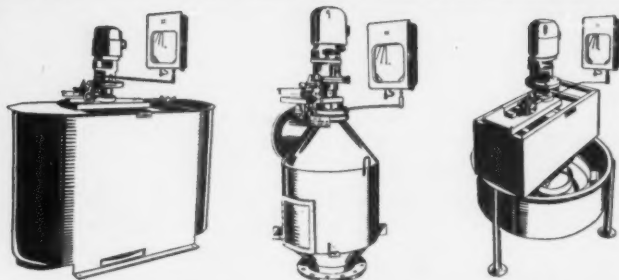
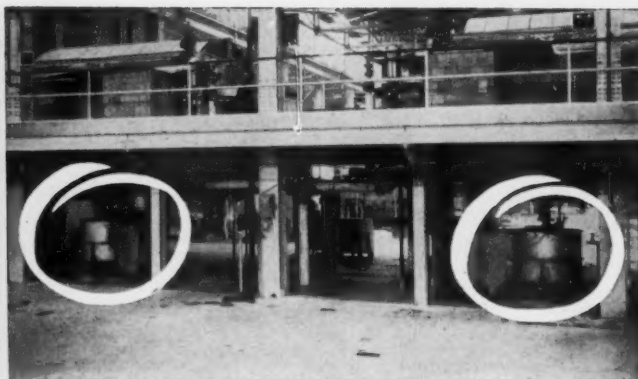
A single knob changes the regulated consistency and the change is immediately indicated on the chart of the controller-recorder. Settings can be duplicated precisely. This feature is important on installations ahead of refiners where different grades of furnish can be improved by refining at different consistencies.

✓ DEPENDABLE OPERATION

Spattering stock cannot affect the sensitivity or accuracy of DeZurik Regulators. No levers, joints or bearings are exposed to the stock . . . no rapidly moving or delicate parts to require frequent adjustment. Feeler blades are non-fouling—foreign material will not hang up.

✓ 24-HOUR RECORDING

The operation of DeZurik Regulators is completely automatic. The controller-recorder delivers a 24-hour recording, charting both incoming and outgoing consistencies . . . preserving a graphic picture of stock-system variations.



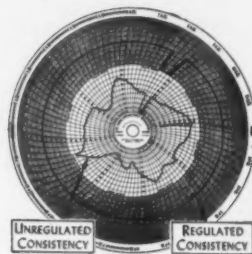
The precision and dependability of DeZurik Stock Consistency Regulators have been proved in many thousands of installations. Modern instrumentation plus a highly responsive mechanism achieves maximum accuracy with minimum attention.

Three basic types can be adapted to every requirement. The Stuff Box type is used widely on installations ahead of paper and board machines or ahead of a finishing refiner.

The Pipe Line type is installed on closed systems—systems under pressure. The regulator handles the entire volume of stock. The full capacity of the pump can be utilized because no sample is returned.

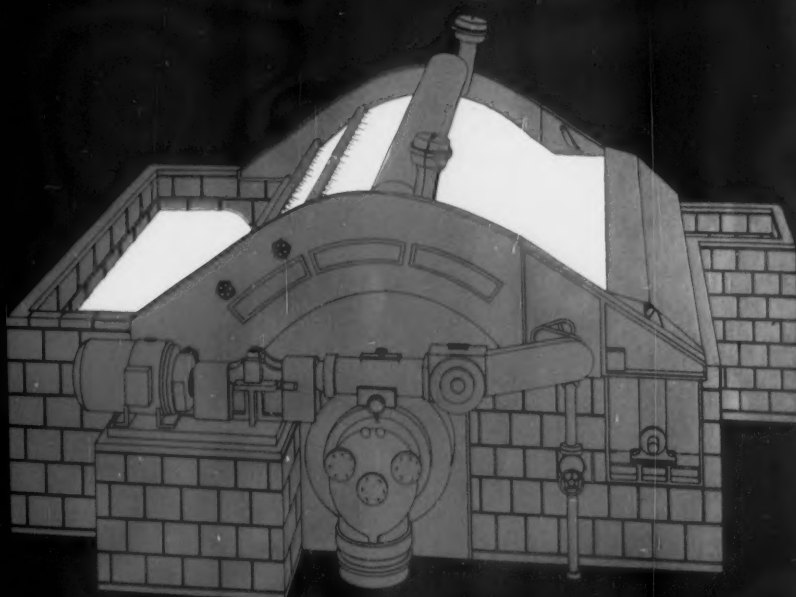
The Pan type regulator is designed to take gravity flow of stock from filters, washers, deckers, savealls, etc., without the necessity for pumping the stock to the regulator.

WITHOUT ATTENTION—without maintenance—under the most severe conditions, DeZurik Consistency Regulators never vary in performance.



WRITE for complete information on DeZurik Regulators.

DeZURIK
CORPORATION
SARTELL, MINNESOTA



IMPCO

VACUUM FILTERS

BUILT TO YOUR EXACT
SPECIFICATIONS FOR —

- ★ BROWN STOCK WASHING
- ★ RED LIQUOR WASHING
- ★ DECKERING
- ★ BLEACHED PULP WASHING
- ★ SAVEALLS



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MACHINERY INC.

NASHUA • NEW HAMPSHIRE

In Canada, Sherbrooke Machineries Limited, Sherbrooke, Quebec



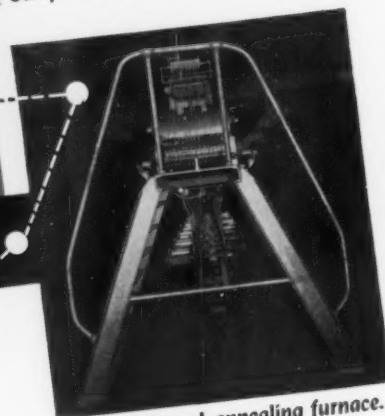
It all starts here . . .



Working on a Lindsay stretcher table foundation.



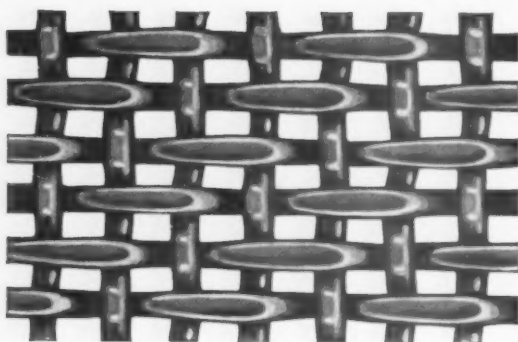
← Completing a Lindsay loom.



A Lindsay designed annealing furnace.



- it always means the best!



Since 1903, Lindsay has specialized in one field—the weaving of Fourdriner wires to make possible better paper and paper products. To that end, we design, engineer and build much of our own equipment, especially our looms. Result—a closer, surer control over the quality of Fourdriner wire cloth.

THE LINDSAY WIRE WEAVING COMPANY

CLEVELAND 10, OHIO



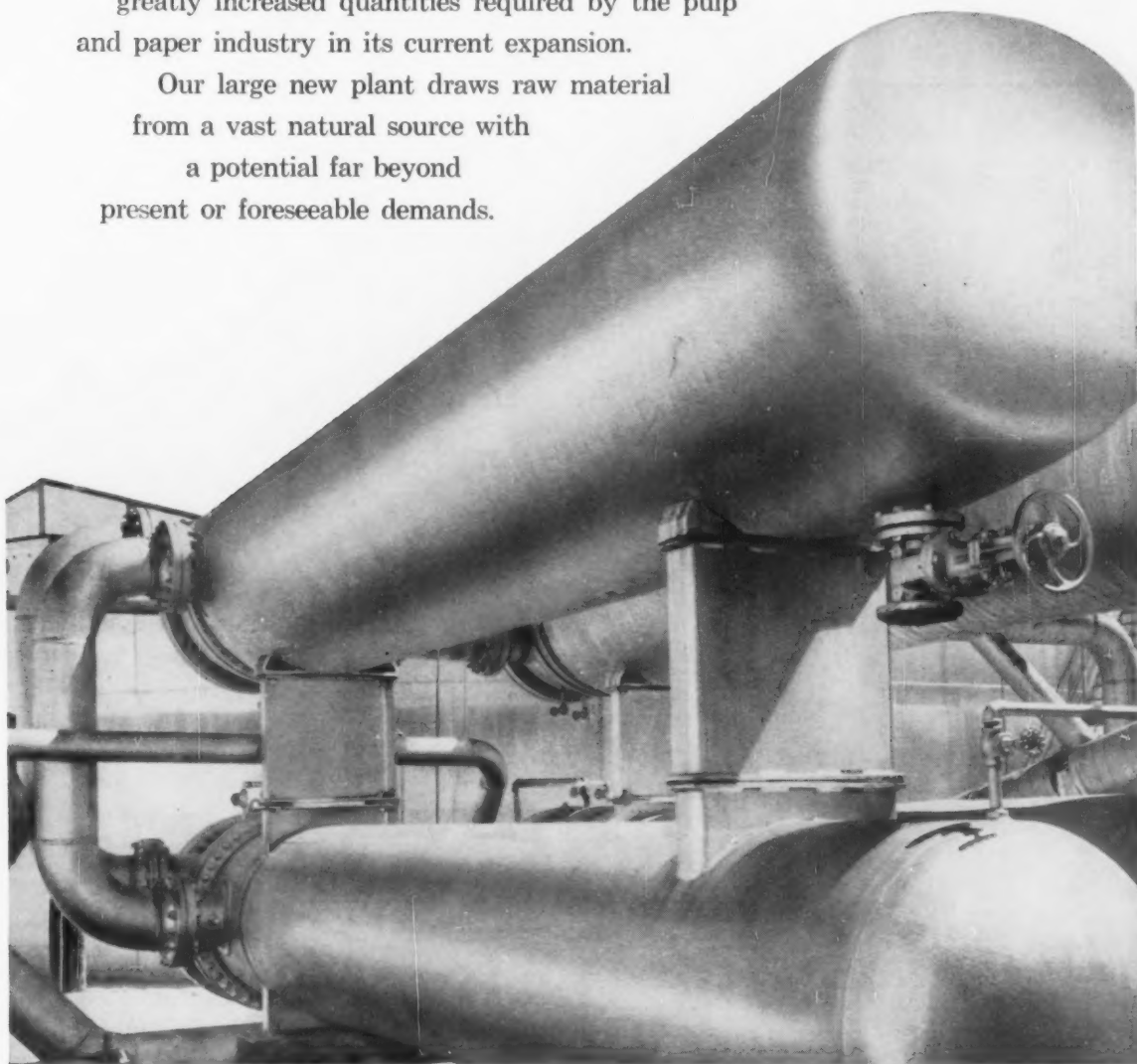
LINDSAY WIRES

FOR PAPER MANUFACTURING

**SALT CAKE is a primary West End product
and we have the production capacity
to meet your needs**

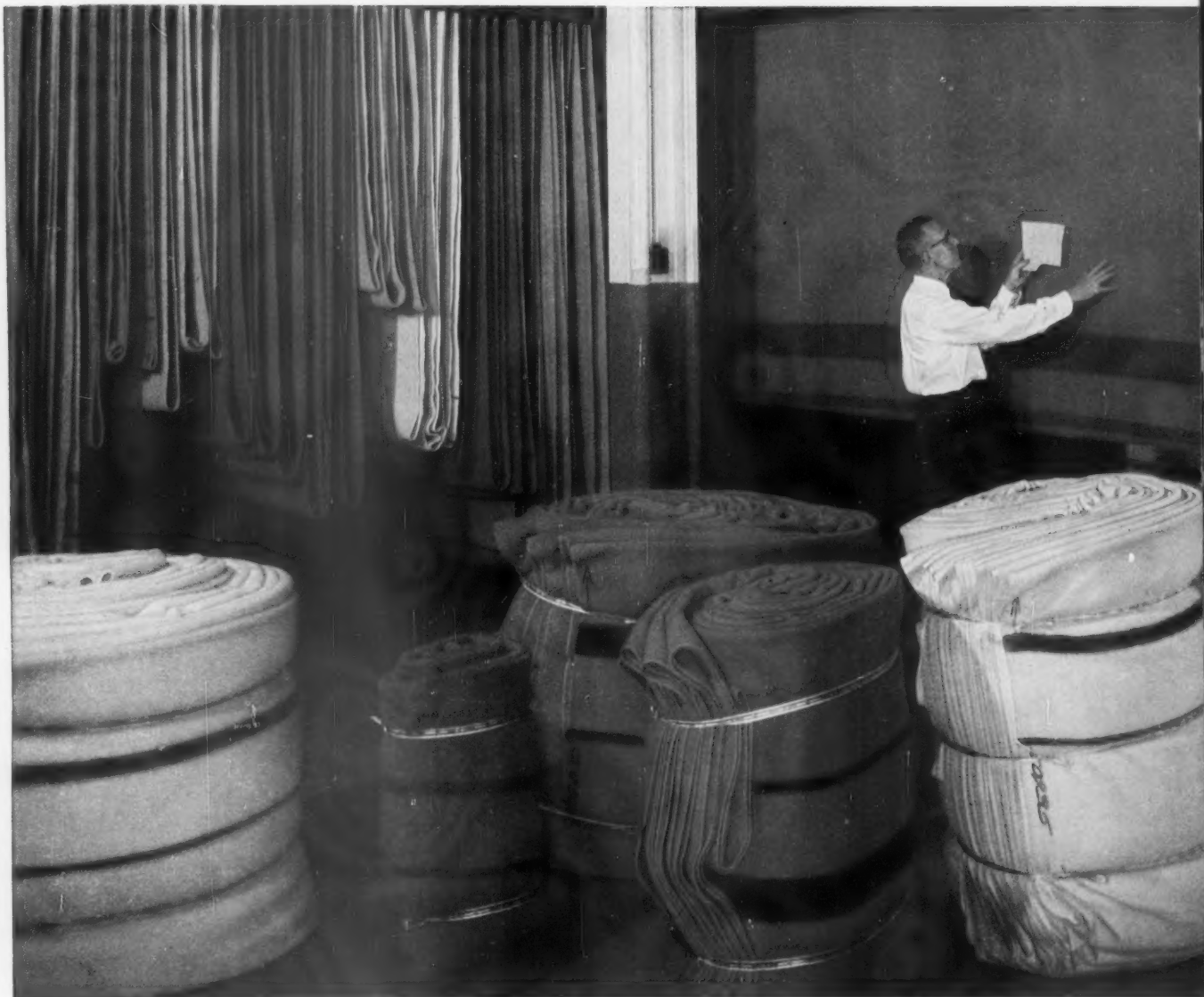
At West End, salt cake is a prime product... not
a by-product... and is being produced in the
greatly increased quantities required by the pulp
and paper industry in its current expansion.

Our large new plant draws raw material
from a vast natural source with
a potential far beyond
present or foreseeable demands.



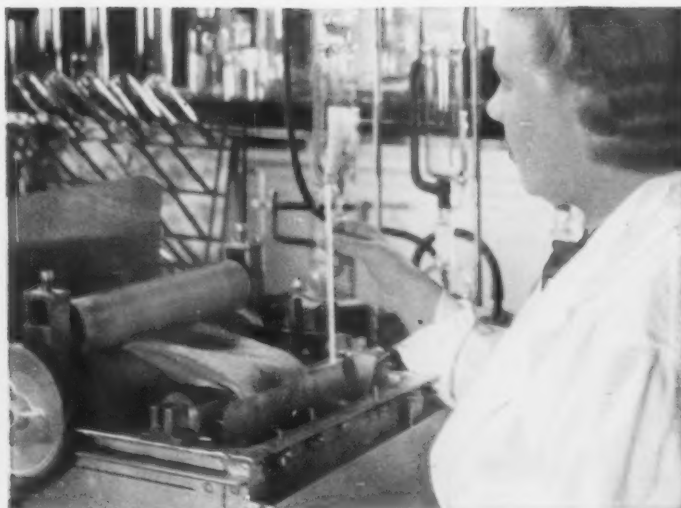
West End Chemical Company

DIVISION OF STAUFFER CHEMICAL COMPANY
EXECUTIVE OFFICES, 1956 WEBSTER, OAKLAND 12, CALIF. • PLANT, WESTEND, CALIF.
SODA ASH • BORAX • SODIUM SULFATE • SALT CAKE • HYDRATED LIME



View of one section of the conditioning room at the main plant, Albany, N. Y., the many colors and shades indicating the wide variety of specialized chemical treatments daily being applied to Albany felts, each proven by performance as best for its particular application.

**Specific-Purpose Chemical
Treatments by Albany Felt
Improve Felt Performance**



Albany's extensive research program is constantly improving existing treatments and developing new ones to meet your demands.



Worker supervises and regulates application of one of many specific-purpose chemical treatments to felts in Albany's finishing department.

YES, Albany Felt's advanced chemical treatments *can improve your felt performance*—in roughly 60% of the positions clothed. This percentage represents the share of Albany's felt production currently receiving one or more chemical treatments. As the industry's pioneer in the field of chemical treatments, Albany has a wide range of varied treatments, since *no one formula* has been developed to answer *every demand*! These include the B and D series which improve starting and wetting; the W-6 Treatment to provide bacterial control; Z-5 for alkali resistance; and the F, H, J and U series which offer resistance to wear, hardening, filling and stretch in varying degrees dependent upon the desired application. In all, more than 20 of these treatments are at work today, *each solving a specific problem better*! Ask your Albany Sales Engineer for information on those best suited to your needs—his goal, as always, to help you produce *more saleable tons per day*!

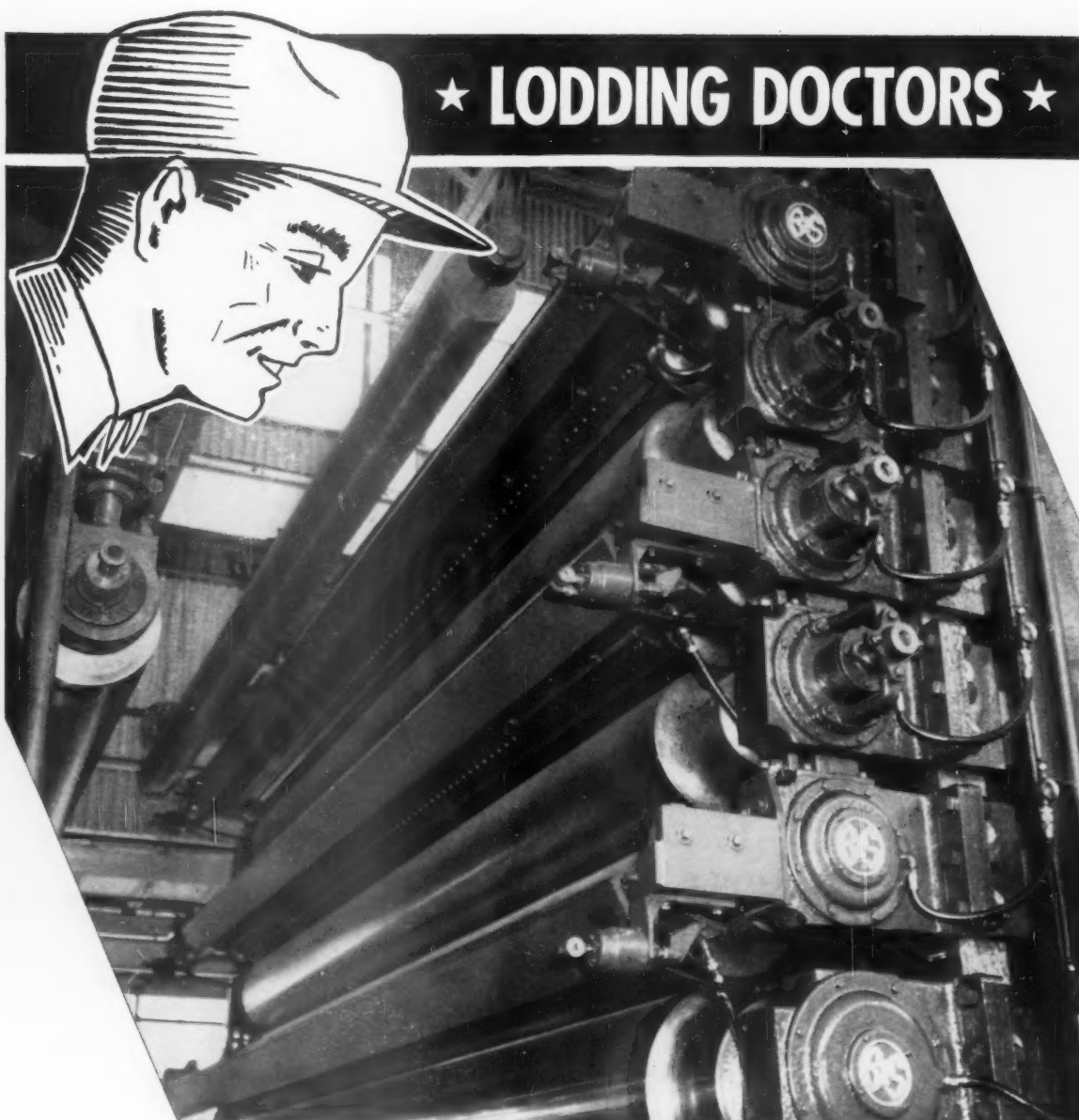
ALBANY

FELT COMPANY

Main Office & Plant, Albany, N. Y. Other plants: Hoosick Falls, N. Y.
N. Monmouth, Me., St. Stephen, S. C., Cowansville, P. Q.



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Modern paper-makers use
Lodding *modern*
Calender Doctors

LODDING ENGINEERING CORPORATION
WORCESTER, MASSACHUSETTS

THE WORLD'S LARGEST SHIP



Photo courtesy of Foster Wheeler Corporation

This is the S. S. *Universe Leader*, National Bulk Carriers' mammoth new tanker—biggest ship afloat. Total displacement, when fully loaded, is a whopping 109,000 tons!

The *Universe Leader's* three steam generators evaporate a normal 78,000 (maximum 98,000) pounds of water per hour, per boiler. Feedwater temperature is 280° F. Steam at superheater outlet is 600 psig, 850° F. Yes, here's a big ship—a big job of preventing heat losses... proof, again, that UNIBESTOS keeps excellent company. Minimum maintenance required by UNIBESTOS on other National Bulk Carriers' ships was an important factor in its selection for the *Universe Leader*.

You'll find UNIBESTOS, too, on the *Forrestal*, the *Saratoga*, the *Nautilus*, the *Seawolf* and many other "big names" of the Seven Seas . . . in power plants, refineries, chemical plants, and hundreds of other exacting industrial services. When you see UNIBESTOS you're sure to agree . . . it's the world's finest pipe insulation.

Ask for free, new 40-page UNIBESTOS Catalog

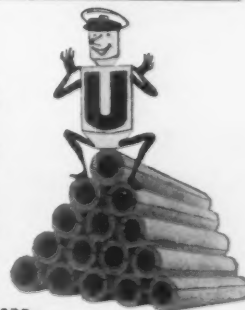
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world's finest
pipe insulation



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Why does UNARCO make more high-temperature pipe insulation than anyone else? Because UNIBESTOS single-layer construction is unmatched for ease of installation . . . because it heat-seals joints and fittings, too . . . because it stands up under shock and vibration. It's durable, reliable, made up to 44" O.D.



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Write for Bulletin A-156

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to your sheet

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Cotton Dryer Felt

Type #1464-S

Where a superior finish is important, the Scapa Synthetic Reinforced Cotton Dryer Felt #1464-S is for you. The only felt of its kind available, it is woven with our soft, flat 'English Weave' and imparts a better surface to any paper. The fastest drying felt we make, every thread scientifically reinforced with synthetic blend yarn for much longer life.

Available in any width and supplied with our famous Scapa Staggered-Butt Clipper Seam, if desired. Prompt shipments from our new mill at Waycross, Georgia.

*U. S. Patent Application Serial No. 524410.

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GREEN DACRON EDGE
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These reinforced edges of pure,
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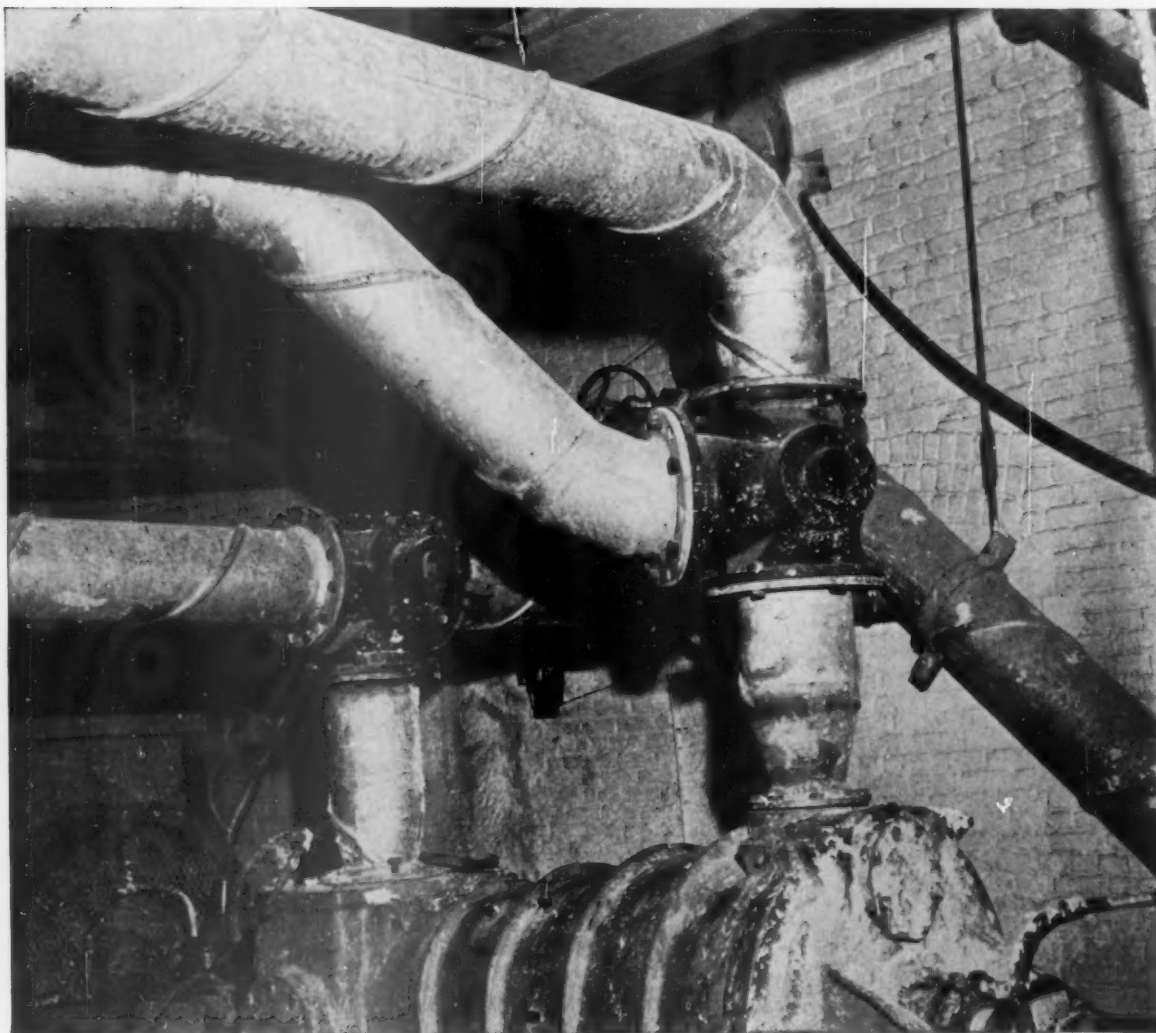
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NAYLOR

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Unique Lummus Engineering Development Center—30 Minutes From Manhattan—Proves Out Processes Before Construction

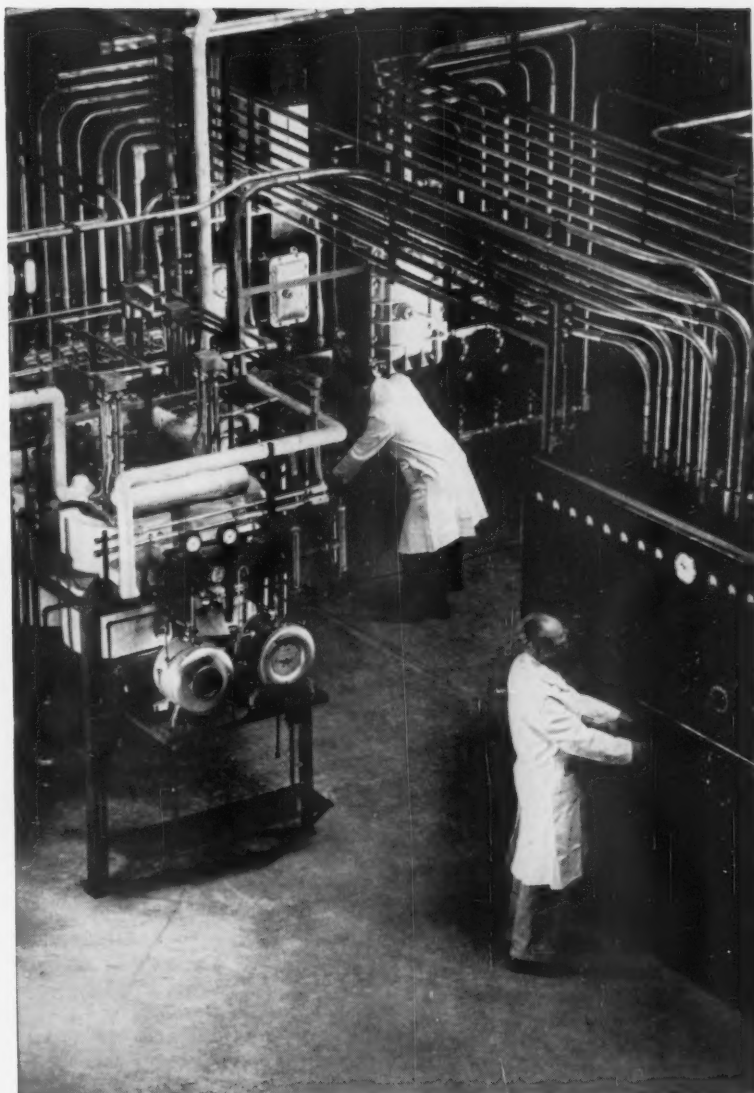
At a new 150,000 square-foot Center near the Newark Airport, the Lummus Company is expanding a long-established engineering development program into a major service to the process industries. The intensive pilot plant investigations carried out here will, in the years to come, spell the difference between rash gamble and sound plant investment for many manufacturers in the chemical, petroleum, pulp and paper and allied fields.

For a complete description of The Center and how it can help you bridge the gap between laboratory research and successful production, write for the 16-page brochure "Lummus Engineering Development Center." Address The Lummus Company, 385 Madison Avenue, New York 17, New York.

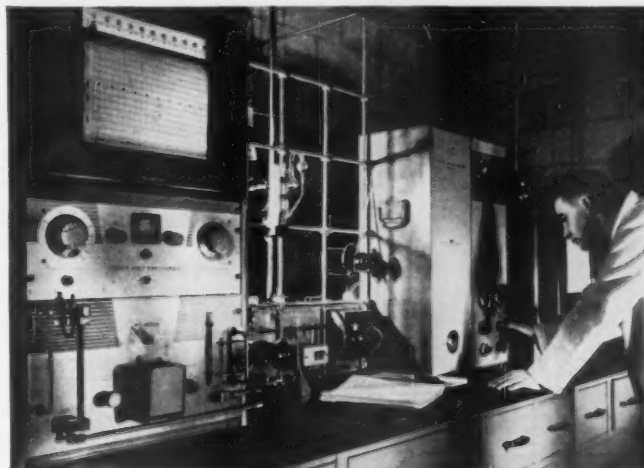


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PULP & PAPER—October 1957



MOST PILOT UNITS at The Center are put together from standard "building blocks." Skid-mounted charging units such as the one at left hold tanks, heaters and pumps for transfer and metering. Process equipment, here shown in background center, can be widely varied. At right is electrical control cabinet. All switches, relays and controls not housed in explosion-proof boxes are enclosed in cabinets like this one, pressurized with outside air to exclude process vapors.



ANALYSIS OF MATERIALS processed and produced in pilot operations at The Center is an important part of the work carried out by Lummus engineers. Here a laboratory technician determines the composition of a multiple-component gas, using a gas chromatography technique.

Northeast . . .

Memo from MRC . . .

"Down-Easterners" are known for their frankness—many of them call a spade a spade—that is until they stumble over one in the dark . . .

ED FRISBY, personnel director at Oxford's Rumford, Maine mill, is now mgr., industrial relations, says BILL CHISHOLM, president . . . RALPH CALDWELL, ass't., moves up to personnel director . . . Dow has promoted EUGENE MARTINEZ to mgr. of its Boston sales office, and E. H. KILLHEFFER JR., to succeed him as mgr. at Buffalo. . . .

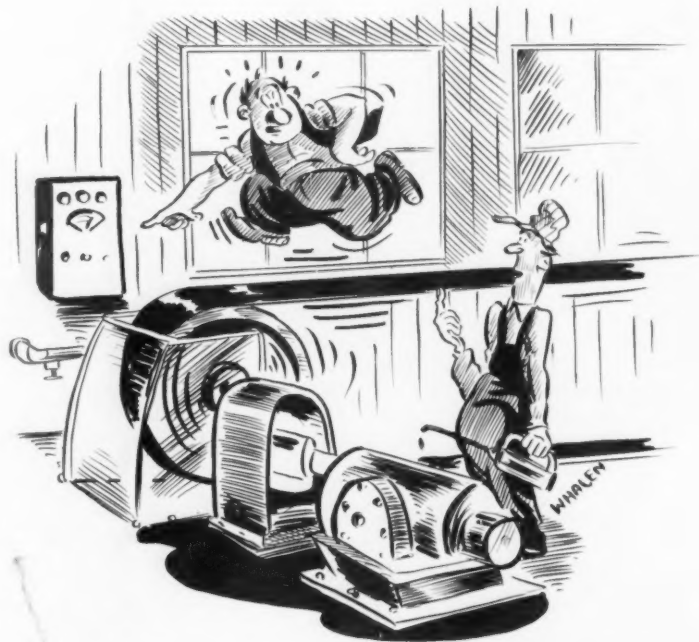
KENNETH C. TOWE, president of American Cyanamid, has been upped to new post of chairman of the board. DR. WILBUR G. MALCOLM, v.p. for marketing, is now president and chief exec officer . . . CARLYLE HARMON, Chicopee Mfg. Corp., has been transferred from Chicopee Falls, Mass. to the research dept., at Milltown, N.J. . . . RICHARD W. MALEY, formerly of Chemical Paper Mfg. Co., is now plant engineer for Spaulding Fibre Co., Rochester, N.H. . . .

W. E. ROUBIE, chief engineer (11 years) of the Jenssen Co., is now on the engineering staff of Stebbins Engineering & Mfg. Co. . . . JIM OVERALL takes over as manager for the pulp and paper industry, a new post in the sales dept. at Fischer & Porter Co. At Union-Camp he shares a patent with a former fellow



Dr. Robert J. Van Nostrand, Asst. Sales Mgr., Pulp and Floc Sales Div., Brown Co. . . .

. . . will make headquarters in Boston, Mass. A graduate of Lawrence College and Institute of Paper Chemistry, Dr. Van Nostrand joined Brown in 1943 as a chemist with the Research and Development Dept. Home is 8 Golden Ball Rd., Weston, Mass.



"Never mind how I got up here—push the button!"

employee, J. UPSON, for an improved felt guide. Jim's hobby is photography—and a notebook crammed with ideas for pulp and paper. . . .

FRED R. SISSONS JR. died recently at his home. He was editor of Paper and Paper Products . . . J. L. OBER, retired vice president of Scott Paper, has been reelected president of the U. of Maine Pulp and Paper Foundation. GEORGE D. KELLER is now chief engineer of Brooks Rotameter Co. . . . JAMES E. DAYL, credit mgr., Keyes Fibre Co., died recently at his home at 55 . . . ROBERT F. STEVENS is now mgr. of industrial chemicals for DuPont and THOMAS A. MARTONE JR. will succeed him as sales supervisor of the Philadelphia district. Both are with the Dyes and Chemicals Div. . . .

ROBERT BONSALE, kraft process engineer, is technical control supervisor, Brown Co.'s kraft mill . . . JOSEPH R. DENTON is a vice president New York district sales for Cochrane Corp. . . . DICK PREMO has moved from Gould Paper Co.'s pulp mill to J&J Roger's operations at AuSable, N.Y. . . . RODGER C. DERBY has joined the New York office of the Carolina Paper Sales group of Riegel Paper Corp. He was formerly with Champion Paper Co. as exec. asst. to sales mgr. of food packaging sales.

WALTER SHORTER, vice pres. i/c paper and bleached board sales for Union Bag-



Henry S. Gilbert, Staff Sales Engineer, John W. Bolton & Sons...

. . . and The Emerson Manufacturing Co. Div. of Lawrence, Mass. Will coordinate sales and engineering activities. A graduate of M.I.T., Mr. Gilbert was formerly with General Electric Co.

Camp Paper Corp., becomes vice pres. and gen. sales mgr. CLARK REYNOLDS is appointed asst. to the vice pres. and gen. sales mgr. . . . WILLIAM R. ADAMS, pres. of St. Regis Paper Co., was appointed chairman of the Paper Manufacturers div. of Travelers Aid Society . . . T. H. MITTENDORF, exec. vice pres., Hudson Pulp & Paper Corp., retired recently. Mr. Mittendorf came to Hudson as v.p.



James E. Overall, Sales Dept. Mgr., P & P Industry, Fischer & Porter . . . will coordinate sales efforts in U.S. and Canada. Mr. Overall joined International Paper Co. after graduating from University of Florida in 1938. Recently with J. E. Sirrine Co. as senior instrumentation engineer.

i/c sales in 1948 and became exec. vice pres. in 1956. He plans to live at his home in Florida. . . .

S. MERLE HARDISON is new district mgr. in Philadelphia for Tube Turns, Louisville, Ky., succeeding **W. E. GEISER** who returns to headquarters in Louisville. . . . **GEORGE W. HOFFMEISTER**, supt. of assembly operations in Philadelphia, becomes gen. supt. of Minneapolis-Honeywell Regulator Co.'s new plant at Fall River, Mass. . . .

HENRY MCORIE, traffic mgr. of St. Regis Paper Co.'s northern traffic div., Watertown, N.Y., retires after 34 years with the company. . . . **GEORGE W. HANGEN** becomes district mgr., multi-wall dept. of Hudson Pulp & Paper Corp., supervising sales in the eastern Penna. region. He was formerly with St. Regis. . . .

Pacific Coast . . .

Memo from LHB . . .

W. H. WILLIAMSON, veteran West Coast representative of Shuler & Benninghofen, died Aug. 14 at Portland, Ore., as result of illness. He was a leading participant in many industry activities in the West. . . .

GEORGE H. MCGREGOR, 6807 E. Corrigidor Road, Vancouver, Wash., long affiliated with paper & pulp manufacture, resigned as gen. supt. of Columbia River Paper Mills and is currently doing consulting work. . . . **ROBERT B. PAMPLIN**, executive vice pres., becomes pres. of Georgia-Pacific Corp. as successor to **OWEN R. CHEATHAM** who continues to serve as board chairman and chief executive officer. . . . **B. E. TENNERY** is new

gen. supt. of Link-Belt Co.'s Los Angeles plant, after 11 years as gen. supt. in Seattle. The company moves to a new plant at Montebello, 10 miles east of downtown L.A. in Oct. . . .

H. MCINTOSH BEATTY, JR., is appointed sales representative in the northwest for Hooker Electrochemical Co., Tacoma, Wash., according to **HORACE W. HOOKER, JR.**, western sales mgr. A native of Cleveland, O., Mr. Beatty joined Hooker in 1953. He is a graduate of Yale, 1953. He and Mrs. Beatty recently moved into their new home at 7238 Interlaaken Blvd., Tacoma. . . .

RUSSELL A. MORIN joins Fibreboard Paper Products Corp., San Francisco, as

director of traffic, succeeding **HAROLD A. LINCOLN**, who continues as director of traffic research. For the past 11 years Mr. Morin has been with U.S. Gypsum Co. in Chicago. **CLAUDE M. STITT** is mgr. of the new Resources Development Dept. for Fibreboard. Functions will be investigation of pulp and paperboard projects, acquisition and management of timberlands, logging operations and water supply and effluent disposal. Temporary headquarters are at the San Joaquin plant at Antioch. . . .

JAMES M. BUTTERICK returns from San Leandro to Crown Zellerbach's Camas mill as specialty bag & finishing foreman. **MELVIN L. WINGROVE**, formerly asst. to

**Let the chips fall
where they
PAY!**



Soderhamn
Open Spout
Slab-Log Chipper
HF-30K and
HF-60K



HF-60 Chipper



Horizontal Chipper



Re-Chipper



CS-90 Screen



...with SODERHAMN CHIPPERS

Soderhamn — the foremost name in woodwaste utilization equipment — manufactures a complete line of chippers that are helping saw mills cash in their chips in a big way!

Now available at Soderhamn are Force-Feed, Horizontal Force-Feed, and the new Open Spout Slab-Log Chipper (shown above) — the lowest priced quality chippers guaranteed to meet any chip specifications.

The new Slab-Log Chipper is available with 9" x 15" or 12" x 18" opening. Exceptionally low anvil knife cost due to unique design affording four usable edges. Suitable for use in your saw mill, slab concentration yard, pulpwood yard, or pulp mill.

Soderhamn machines — proven in use — are making money today for more than 200 mills in the U.S. and Canada, and can do the same for you.

Call, wire or write —

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SODERHAMN, SWEDEN SINCE 1864 TALLADEGA, ALABAMA

West Coast Sales Office: Room 409 Pittock Building, Portland, Oregon
Canadian Representatives: East Coast: Forano Limited, Montreal, Canada

Strictly Personal

paper mill supt.—tissue, transfers from Camas to Antioch as supt. of tissue & towel machines. . . .

JOHN V. ROSLUND, Pacific Coast representative for Asten-Hill Mfg. Co. and H. Waterbury & Sons Co., and Mrs. Roslund are returning to their Portland, Ore. home early in October from a 10-week trip to Sweden and other European countries. . . . L. H. NORDELL, treasurer of National Steel Construction Co., has been named commercial and financial manager of Lamb-Grays Harbor Co., Hoquiam,

Wash. . . . P. R. SANDWELL, pres. of Sandwell & Co., Inc., Seattle, announces appointment of ARTHUR WINIGER, managing director of Electro-Watt Electrical & Instrument Management Co., Ltd. of Zurich, as a director of the engineering firm. . . .

DOREEN MORASCH, daughter of CONRAD MORASCH, wood mill-chip plant supt. CZ Camas, was chosen Miss Eugene (where she attends U. of Ore.) and subsequently placed third in Miss Oregon contest. . . . R. E. HARPER, gen. mgr.



Andreas Christensen, Officially Retiring, Enters Consulting . . .

. . . being 65 years "young" in November when he must end his service as production mgr. at the Kimberly-Clark operated Spruce Falls Pulp & Paper Co., he says he plans continued activity in the industry.

Andreas Christensen got his first job as a millwright's apprentice at 75 cents a week in a Norwegian sulfite mill in 1908.

Two years later, he completed a mechanical engineering course in Norway and then took special studies in pulp and paper at the Polytechnic Institute of Cothen in Germany. Upon graduating in 1914 he sailed for the United States and a job organizing a technical control dept. for Minnesota & Ontario Paper Co. at International Falls, Minn. He left to help start new sulfite mills, first for Ontario Paper Co. at Thorold, Ont., and then for Pacific Mills Ltd. at Ocean Falls, B.C.

WW I and a stint in Europe with a railway construction battalion intervened. At the end of the war, Mr. Christensen joined Rhinelander Paper Co., where he remained 13 years. Since then he has been with Rayonier, Crown Zellerbach, British Columbia Pulp & Paper and Spruce Falls.

Mr. Christensen lives at 104 Riverside Dr., PO Box 29, Kapuskasing, Ont., where he says he can be reached for consulting or other industry activity.

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Tennessee's liquid Sulfur Dioxide is a most efficient and economical antichlor. Removes residual chlorine and other materials which cause color reversion or yellowing with age. It also eliminates excessive residual chlorine in water.

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Tennessee's Liquid Sulfur Dioxide practically 100% pure, is also very effective as a reducing, bleaching, and neutralizing agent, preservative and pH control.



We would like to consult with you on the possibilities of Tennessee's Liquid Sulfur Dioxide in your processing.

TENNESSEE  **CORPORATION**

617-29 Grant Building, Atlanta, Georgia

R-W Paper Co., announces promotion of two 20-yr. men—both formerly of parent Rhinelander Paper Co.: HENRY STOLTZ, from shift supervisor to newly created position of plant supt., WILLARD ROEDER, from machinetender, to shift supervisor. . . .

JAMES B. PALMER, JR., promoted from administrative assistant to assistant bag factory supt. at CZ Camas, according to Res. Mgr. F. O. BOYLON . . . VERNON M. SCHENCK, II, joins Georgia-Pacific's public relations and advertising dept. at Portland. . . . HUGH REAR, national representative of Wade's irrigation dept., transferred from Columbus, O., to sales mgr., industrial div., of R. M. Wade & Co., Portland, Ore., Gould's pumps rep., according to Pres. WADE NEWBIGIN who is also pres. of Goulds Pumps Western. . . . NEIL P. STEWART, formerly mgr. of brand promotion section of Safeway Stores, joins CZ at San Francisco as manager-advertising, consumer products sales . . .



**William Nepote, Sales Manager
Goulds Pumps Western, Inc. . . .**

. . . has been sales manager of the Industrial Pump Div., R. M. Wade & Co., since 1950. Headquarters continue in Portland, Ore. Mr. Nepote started with Wade in 1946 as industrial pump salesman. Among duties will be instruction of pump distributor salesmen.

Two new associate chemists join Western-Waxide packaging research and development lab at San Leandro: GEORGE M. TOKOS, formerly of Rayonier, and HANS L. STENE, of Tetra Pak AB, Lund, Sweden. . . .

FRANK M. SAMUELSON becomes asst. supervisor of mill purchases at CZ Port Townsend. . . . REINHOLD W. HIRSEKORN, converting foreman, and E. H. EBAUGH, converting supervisor, transferring in grade from CZ San Leandro to CZ Antioch converting. . . . MAURICE BURKE, senior industrial engineer at Camas, moves to CZ headquarters as organization analyst, organization planning, corporate development. . . . ERNEST A. MITCHELL promoted from staff mgr. to asst. gen. mgr., staff, Western-Waxide San Leandro. . . .

W. Q. REINIGER, previously slated to become manager of Longview Fibre's Oakland container plant has been named manager of the firm's Los Angeles container plant to succeed A. F. KNAGGS, who resigned, according to R. P. WOLLENBERG, vice pres.-operations; the position of manager at Oakland will be filled Jan. 1 when GEORGE CAPLOE, now office manager of Longview container div., takes over; D. B. PHILLIPS, previously manager at Oakland, recently moved to Longview to become manager of container operations there and retains responsibilities at Oakland until Mr. Caploe reports. . . . ERNEST SWICERT, pres. of Hyster Co., and "crew" toured Puget Sound and San Juan Islands via his boat recently. Associates were JACK WILCOX, manager process equipment div., Esco, HANK SWICERT, of Esco X-ray dept., ART NIKAND, Hyster factory manager, LES EHMANN, research engineer at Hyster. . . .

LELAND S. ROSENER, Jr., Engineers have become Rosener Engineering Inc.,



To show fluid volume, photographer Bernard Hoffman uses the free discharge of water from an ordinary garden hose.

Controlling Volume in Fluid Engineering

Few volume control problems can be solved with a quick twist of your wrist the way you do with a garden hose nozzle. In processing equipment, the factors of pressure, flow, and time must also be carefully considered. That's why, when you need accurate answers, you can depend on the broad engineering background S. Morgan Smith offers.

Take an SMS Rotovalve, for instance. Its full line opening means least head loss, lower pumping costs. Hydraulic imbalance and mechanical design make the Rotovalve easy to operate. Fast initial shut-off limits reversal of flow, and closing can be in one second or as slow as required. Final closure is positive and drop tight throughout valve life. SMS Ball Valves, similar to Rotovalves, offer many of these same advantages.

Information on the complete SMS line — R-S Butterfly Valves, Rotovalves and Ball Valves may be obtained by calling our nearest representative. Or, write S. Morgan Smith Co., York, Pa., for data on standard valves or special, engineered applications.

S. MORGAN SMITH  **HYDRODYNAMICS**

AFFILIATE: S. MORGAN SMITH, CANADA, LIMITED, TORONTO

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SUPERIOR SEALING SERVICE . . .

"Balanced Pressure" Design Feature of SEALOL Rotary Joints!!

Seal Specialists at Sealol, originators of the Balanced Pressure seal, have incorporated the outstanding features offered by this unique principle into these Rotary Joint designs. Check these design features . . .

- Low Torque
- Long Life, maximum performance
- Automatic take-up for normal wear
- Leakproof
- Choice of carbon or ball bearing
- Minimum maintenance
- Simple, compact, streamlined designs
- Pressures: 150 psi max. for steam; 350 psi max. for fluids
- Speeds up to 1750 RPM
- Temperatures up to 425°F.

Write now . . . for Bulletin 14 . . . for complete data!

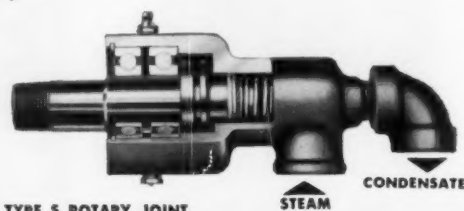
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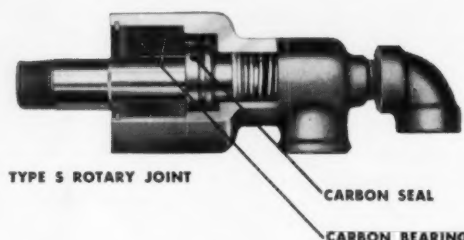
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TYPE S ROTARY JOINT

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Top or Bottom SLITTER KNIVES
(of all types)

Full Automatic or Semi-Automatic
Reasonably Priced

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FINEST MICRO INCH FINISHES
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Let us prove the value of this machine:
Send us your knives for test grinding.
There's no obligation.

HANCHETT MANUFACTURING COMPANY

World's Largest Manufacturer of Knife Grinding and Saw Sharpening Machinery

MAIN OFFICE — Big Rapids, Michigan

WEST COAST — Portland 1, Oregon



Engineers and Architects, maintaining the same key personnel with offices at 149 New Montgomery St., San Francisco.

JIMMY RODGERS, popular ballad singer who skyrocketed to national recognition in field of recorded music, hails from Camas where ARCHIE and MARY RODGERS—his father and mother—are respectively mechanic and inspector at CZ bag factory.

. . . C. V. McDONALD, assistant office mgr., promoted to office mgr. at CZ Camas as successor to HUGH E. BURDON who retired Sept. 1 after 45 years service.

. . . HAROLD DANIELS, assistant chief electrical engineer, becomes chief electrical engineer at West Linn filling vacancy resulting with retirement of W. S. Boutwell. . . J. R. CALLAHAN, JR., was promoted from assistant to mill mgr. to assistant mill mgr. at Weyerhaeuser Longview Pulp Div. . .

Bob True Dies

Robert M. True, 56, Pacific Coast branch manager, General Dyestuff Co., with headquarters in San Francisco, died suddenly at his home in Menlo Park, Calif., Aug. 25.

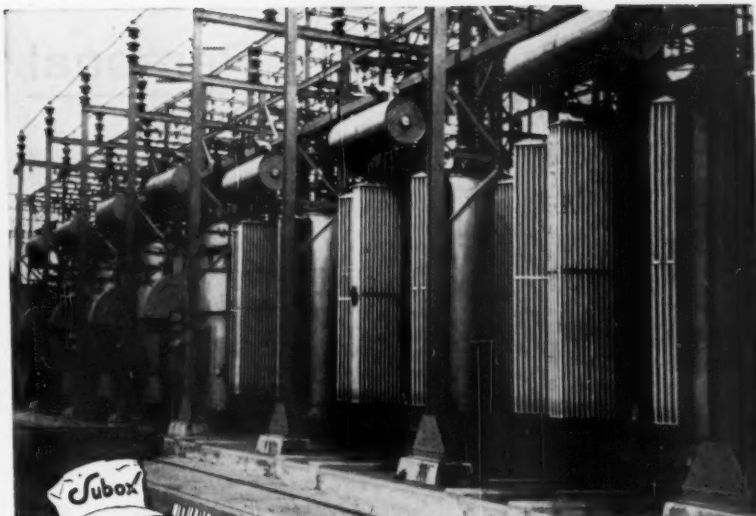
Native of Jackson, Mich., he was a graduate of the University of Michigan, with a master's in chem. engineering. He became assistant supt. of Crocker McElwain Co., Holyoke, Mass. In 1935 he was appointed technical director, Blandin Paper Co., Grand Rapids, Minn. He joined General Aniline & Film Corp., Dyestuff and Chemical Division in 1937, first serving as sales engineer for the Pacific Northwest area, with offices in Portland, Ore. For the past six years he has been Coast branch manager.

Mr. True was a leader in the Pacific Section of TAPPI, serving as secretary-treasurer for a number of years. In recent weeks he helped organize the new Golden Gate division of Coast TAPPI in San Francisco. His widow, Catherine, a son, Robert, and a daughter, Susanne, and a brother, Norman L. True, Bisbee, Ariz., survive.

Southern . . .

Memo from WFD . . .

The Southern Exposure: Most exciting story of the month appears in a letter from Sonoco prod. mgr. BOB WHITE to his two daughters, Pat and Bet, describing the July earthquake in Mexico City. Bob and Mrs. White were visiting the city when the quake hit. Said Bob: ". . . in an earthquake, the higher up you get . . . the more action you get . . . the rocking and rolling was all over in about three minutes . . . but we were all scared as near unto death as we have ever been." Bob reports that Sonoco's Mexico City mill was undamaged in the tremor. . .



SUBOX PAINTS ACTIVELY WORK TO PROTECT

Only Subox paints are made with lead-suboxide. This colloidal pigment achieves maximum surface penetration . . . packs to form a dense, impervious coating. Moreover, it is *chemically active* . . . actually works continuously to combat corrosion.

Too, Subox paints deflect external heat and radiate internal heat, thereby keeping metal surfaces cooler. This quality is particularly important in the protection of such property as transformers, power plant and sub-station equipment.

Subox paints assure protection and economy in a way that no other paint can give. They are easily applied by brush, spray or flow-coating and endure for many years: they do not crack, chip or blister, even under the most severe conditions. Available in attractive modern colors.

Write for booklet: "Subox Paints".

SUBOX PAINTS

Subox Inc.

Trade Mark

Established 1924
8 Fairmount Plant
Hackensack, N. J.

Strictly Personal

Success story: GEORGE L. CLARKE, whose paper mill experience includes duty with Coosa Pines, Kimberly-Clark's Longlac mill and two tours with International Paper, his latest in charge of groundwood on the Mobile division staff, has replaced the late W. L. McHALE as vice pres. and gen. mgr. of Southland Paper Mills. . . .

Staff of St. Joe Paper Co. was saddened by the untimely death of paper veteran EDDIE LAPIROUSE, just recently appointed paper mill supt. Also new at St. Joe—

PAT SHANNON has been promoted from gen. supt. to prod. mgr. and SID BROWN is now asst. prod. supt. . . .

R. W. BURNETT, former paper mill supt. at Southern Advance div. of Continental Can has been promoted to gen. supt. . . . JOHN OSWALT moves from Louisiana mill at Bastrop to become prod. mgr. at I.P.'s Pine Bluff mill and GROVER BRODDNAX moves into Pine Bluff from Springhill as tech. dir. Pine Bluff mgr. HOWARD HINMAN just recently recuperated from a knee operation in Boston.



Frank Whitney (left), Asst. Converting Plant Supervisor, CZ St. Helens Mill . . .
 . . . was specialty bag and finishing foreman at Camas.

J. E. Lambert (right), Resident Manager, Crown Zellerbach's Camas Mill . . .
 . . . transferred from San Francisco headquarters where he was assistant—organizational planning. Succeeds W. E. Parkinson, now res. mgr., Carthage, N.Y.



Bright clear reds and rose pinks of excellent light fastness with good to excellent fastness to water, are obtained with these CIBA "Paper-Proved" Chlorantine Fast Reds.

Applicable to a wide range of papers from sanitary tissues, through bonds, duplicating and ledger papers, especially bag and wrapping grades, these Chlorantine Fast Reds are stable over a pH range sufficiently wide to make color control in the finished papers easily obtained.

These colors also show excellent money value on bleached and semibleached pulps whether produced by the kraft or sulphite process. They are equally useful on sized or unsized papers and under normal operating conditions give very little two sidedness.

Your inquiries are invited on CIBA "Paper-Proved" technical information, samples and color matching.



CIBA Company Inc.
Paper Chemicals Department
627 Greenwich Street, New York 14, N.Y.

ART LEAVENSALER has moved from Great Northern to Mobile in IP's newsprint production. . . . Ed SCHUE, prod. mgr. for Scott Paper at Mobile, has resigned to enter business for himself. . . .

Civics on the mind: ROSCOE POTEET, mill supt. of the Mead Corp.'s Sylva, N. C., mill has been elected mayor of Sylva for the third time in a row. . . . J. O. WELLS, of Olin Mathieson's Pisgah Forest mill was recently elected to the North Carolina Merit System Council for another term (he'll serve until 1963!) . . . and BRANDON HODGES, executive of the Champion Paper and Fibre Co. at Canton, N. C., was recently elected president of the North Carolina Traffic League.

KENNETH JACKSON, recently graduated from Georgia Tech as a chemical engineer, has become a member of Crossett Paper Mill's staff . . . and HUGH L. NUTTER, Jr., U. of Ark. electrical engineer has joined Crossett's plant engineering dept. . . .

HENRY L. MONCRIEF is the new chief electrician at Scott Paper Co.'s Mobile div. He replaces recently retired E. L. BUSHELL. Also due congratulations at Scott's Mobile mill: JOHN PITMAN and DENNIS BREEN, who have both been named finishing supervisors. . . . ROLF GULLANS, formerly a supervisory asst. at Inland Container's Rome plant, has been promoted to prod. mgr. of Inland's new corrugated box plant in Dallas, Tex. . . . GERALD A. O'BRIEN, formerly with Anglo Paper Products Corp. in Quebec City, has joined the Riegel Carolina staff at Acme, N. C., as a mechanical engineer and will do special work on the installation and startup of Riegel's big new kraft machine there.

KENNETH GRACE, Port Arthur, Ontario, Canada, has joined the technical service dept. of West Va. Pulp and Paper's Luke,



Beverly C. Smith (left), Mgr., Pulp Production, Crown Z, Camas . . .

. . . he was resident mgr., CZ Lebanon, Ore., mill, and before that assistant at Port Townsend, Wash. . . .

Rex Morris (right), Res. Mgr., Lebanon, Mill . . .

. . . succeeding Mr. Smith. Mr. Morris was acting tech. supervisor at Lebanon, Md., mill. He is a graduate of U. of Toronto. . . . LLOYD C. PARKER and PATRICK REAGAN have been assigned to Southern posts for Allis-Chalmers, Lloyd Parker in Atlanta and Mr. Reagan in New Orleans. . . . Black-Clawson has moved its Atlanta offices to 3166 Maple Drive, NE.

Manager HOWARD D. HINMAN announces these new key men for International's new Pine Bluff, Ark., mill: JOHN OSWALT, from Louisiana mill, asst. mill mgr.; BENNY CLUBBS, from Bastrop, u.m.e. supt.; GROVER BRODNAX, from Springhill, tech. director, and FRED BRADSHAW, personnel director. . . .

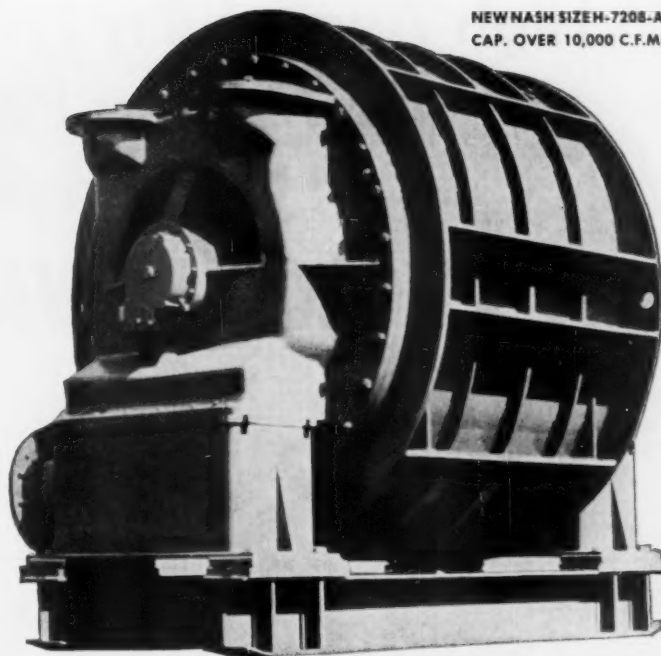
GARZA BALDWIN, JR., joined the legal dept. of Olin Mathieson Chemical Corp. at Pisgah Forest, N. C. . . . JOE YEAR-



W. G. Reynolds, Vice Pres./Mfg., Director, Gulf States Paper . . .

. . . will be responsible for Gulf States' operations at Tuscaloosa and Demopolis. He began as laboratory helper with company in 1936 and worked part-time while at University of Alabama, where he graduated in 1939. He and wife, former Susan Harney of Evanston, Ill., have four children. They live near Cottondale, Ala.

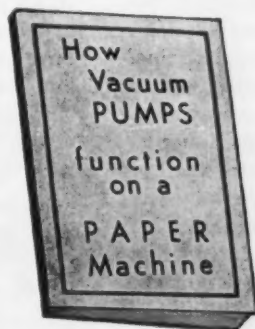
**NEW NASH SIZE H-7208-A
CAP. OVER 10,000 C.F.M.**



If three days lost production on a paper machine amounts to more than the cost of Vacuum Pumps, dependability is the prime factor in pump selection.

Over a thousand leading mills depend on Nash Vacuum Pumps to insure continuous production. Nash Pumps are built sturdy enough to stand the pounding of continuous production. They are simple. They have no internal parts in wearing contact. They will handle slugs of water or stock. They are designed to operate at the low speeds necessary for long life and reliability. Don't gamble with your production. Install Nash Vacuum Pumps and be safe.

NASH ENGINEERING COMPANY
SOUTH NORWALK, CONN. U.S.A.



Of equal interest to Management and to Machine Operators is this informative booklet just published. A copy will be mailed to you free upon request.

Name

Address

City

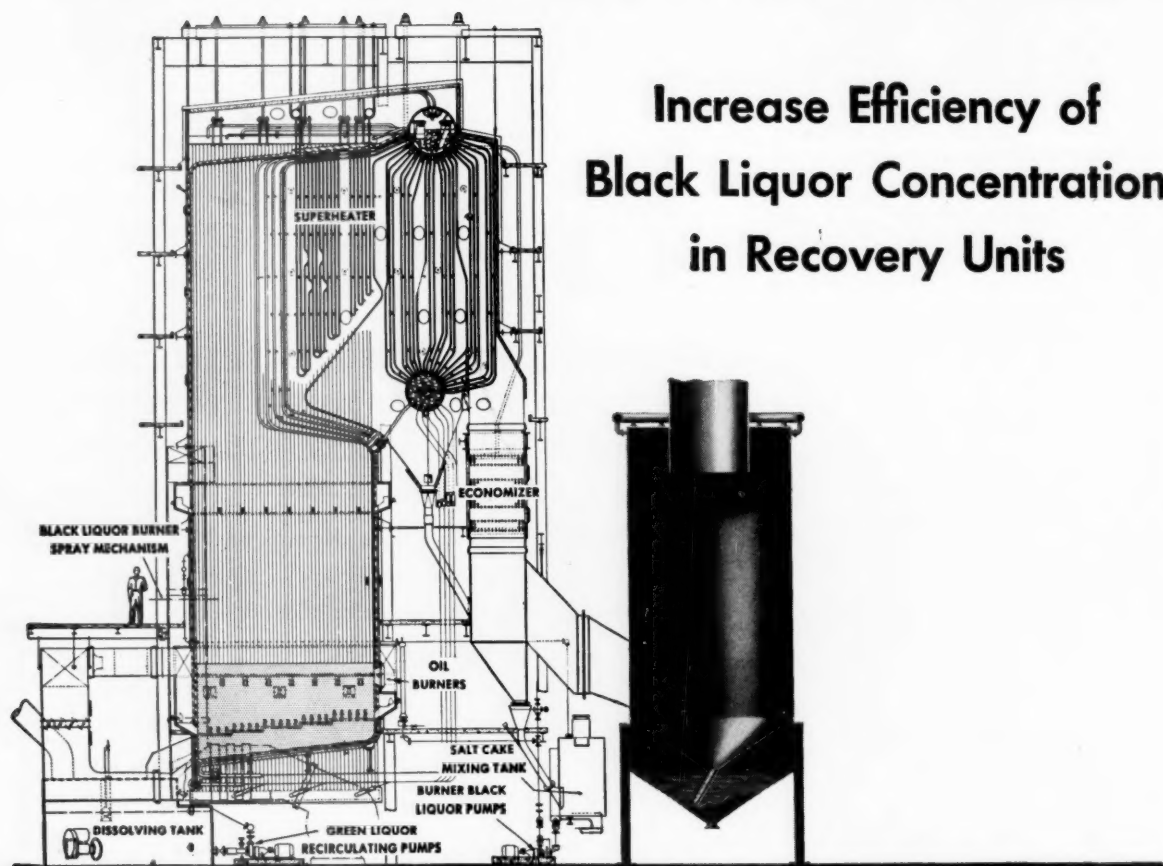
State

High Availability ...

No Moving Parts ...

No Carryover ...

B&W CYCLONE EVAPORATORS



Increase Efficiency of
Black Liquor Concentration
in Recovery Units

The B&W Cyclone Evaporator utilizes the heat in flue gases to concentrate liquor solids being processed in the liquor recovery system. It requires no moving parts to accomplish this.

Hot flue gases are brought into the Cyclone Separator at high velocity in such a way as to give them a cyclonic motion. Black liquor is sprayed in at several points; the inner shell of the cylinder is continuously washed by the droplets thrown against it by the action of the gas, and water is evaporated during this process. Droplets fall by gravity to the bottom, where they are collected. They then go to the recovery furnace.

Dependable, continuous service is essential in all parts of the recovery unit. B&W Recovery Units, with B&W Cyclone Evaporators, have proved their value for efficient chemical and heat recovery with low-cost operation. The Babcock & Wilcox Company, Boiler Division, 161 East 42nd Street, New York 17, N.Y.



P-800



Dave Van de Roovaart (left), Asst. Sales Mgr., Link-Belt Speeder Corp. . . . will aid Sales Mgr. Gordon W. Rowand of the Cedar Rapids, Ia., plant in marketing crawler and rubber-tired shovel-cranes. Mr. Van de Roovaart joined Link-Belt Co. after graduating from the University of Chicago in 1936.

Duane DeLong (right), District Representative for Mid-Southern Territory, Link-Belt Speeder has been a field service representative. A graduate of Cornell College, Iowa, Mr. DeLong joined Link-Belt Speeder in 1950. He will headquarter at Knoxville, Tenn.

wood, member of the first pre-supervisory training program at Kimberly-Clark's Memphis mill, was promoted from first millwright to millwright and welder foreman. **DICK HUPP**, former mill industrial engineer at Niagara Falls No. 2, replaced **BUD PAYNE** as Memphis industrial engineering supt. Mr. Payne was transferred to the office of the director of industrial relations at Neenah, Wis. . . .

Middle West . . . Memo from D.G.C. . . .

DAVID B. SMITH, president and general manager of Wausau Paper Mills Co., is recovering steadily from recent illness, his friends are happy to report, being on a strict diet and rest regime. . . .

Old friends of **JOHN E. ALEXANDER**, president of Nekoosa-Edwards, boarded a gaily decorated barge on Nepco Lake and were towed to his summer home for a surprise birthday party instigated by his wife, Dorothy, and daughters. . . . **CHARLES H. REESE**, vice pres.-mfg., Nekoosa-Edwards, gave his daughter, Susan, in marriage to Malcolm Preston of Glencoe, Ill., on Sept. 7. . . .

HUBERT MACDONALD, representative of Draper felts, and family constituted the 2,000th family to move to Appleton, Wis., in eight years, and it proved to be quite an event. Appleton's "Welcome Wagon" got busy and the amazed MacDonald clan was literally snowed under with gifts of all kinds, from free laundry and cleaning to free milk deliveries, besides having their pictures run on page 1 of the *Post Crescent*, etc. Mac and Marion moved from Chicago to 1025 Nawada



*** means Good Business...**

This Goslin-Birmingham self-supporting sextuple effect evaporator installed at a leading Southern Paper Mill is designed for two steam pressures. Provisions for another body at a future date will convert the evaporator to a septuple effect unit for greater steams and economy. Regardless of size, G-B's experienced process engineers will design a unit to handle any required evaporation you specify.

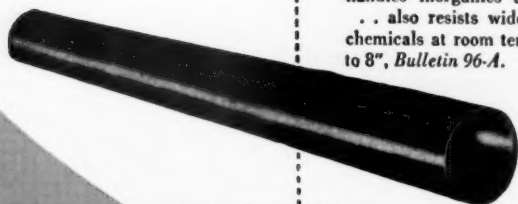


**GOSLIN-BIRMINGHAM
MANUFACTURING CO., INC.
BIRMINGHAM, ALABAMA**

FOR HOT CORROSIVES:

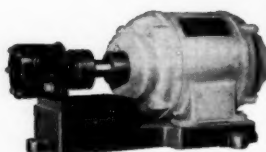
ACE TEMPRON

Heat-resistant nitrile hard rubber pipe handles inorganics at 250-275 deg. F. . . also resists wide range of organic chemicals at room temperature. Sizes 1" to 8", *Bulletin 96-A*.



MIGHTY MIDGET

for pumping acids



Jabsco neoprene-impeller pump made of ACE hard rubber outlasts, out-pumps anything in its pressure, size and price class. Capacity from 15 gpm. at 22 ft. head to 5 gpm. at 72 ft. head. *Bulletin 97-A*.

SENSITIVE,
BUT KEEPS
YOUR HEAD



ACE Darling Swing Check Valve . . .

lined with ACE hard rubber for the best in corrosion resistance. Large, straight-through flow areas. Sensitive to slight pressure differential. Non-slammings. Sizes 2" to 24". *Bulletin CE-52*.

TOUGH ACE-ITE PLASTIC PIPE

General-purpose moderately priced rubber-plastic pipe handles most common chemicals to 170 deg. F. . . except few strong acids and organic solvents. Tough, odorless, tasteless. Rigid pipe 1/2" to 6". *Bulletin 80*.



ACE processing equipment of rubber and plastics

AMERICAN HARD RUBBER COMPANY
Ace Avenue • Butler, New Jersey
DIVISION OF AMERACE CORPORATION



Not All Work at Port Edwards

DR. HERBERT ROWE, technical director at Nekoosa-Edwards, played the part of the psychiatrist in a Port Edwards PTA production of "Harvey," the imaginary rabbit. Here Dr. Rowe "flips his lid" when he sees Harvey's customized hat.

Court, Appleton, Wis. (phone Regent 4-9604). Their children are Susan, Janey and Hubert Jr. . . .

DAVID B. GEARHART, manager, user industry sales, General Electric Co., Kalamazoo, Mich., and his staff have moved into new offices in that city—927 South Burdick St., P. O. Box 447. Phone-Fireside 5-8579. More ample and suitable quarters are testimony to the growing services in that major paper industry region. . . .

EDWARD P. GILLAN, who retired recently as tech. mgr. of corn products div. under Anheuser-Busch, Inc.'s retirement policy, is now doing consultant work three days a week for Union Starch Refining Co., Granite City, Ill. . . . Heading up the new St. Louis district of TAPPI for 1957-58 are JOSEPH J. KOENIG, Gaylord Container Co. div., Crown Zellerbach Corp., St. Louis, chairman; JAMES R. LYON, Alton Box Board Co., Alton, Ill., vice chairman; and MICHAEL MORIARTY, American Car & Foundry Co., St. Charles, Mo., secretary. . . .

RAY STASS has joined GEORGE FROMM's staff in Chicago in American Cyanamid Co.'s Paper Chemicals Dept. He was previously in industrial sales work out of Chicago. . . .

HOWARD J. MORGENS becomes pres. of Procter & Gamble, Cincinnati, O., succeeding NEIL MCELROY, new secretary of defense. Mr. Morgens joined P&G as a salesman in 1933 after receiving m.b.a. from Harvard School of Business. He is also a director of Owens-Corning Fiberglas Co. WALTER LINGLE, JR., exec. vice pres., takes over direction of the paper products and toilet goods divisions. He also directs overseas, cellulose and specialties and oil mill divisions. P&G owns paper mills in Green Bay, Wis., and Cheboygan, Mich., pulp mills in Foley, Fla., and Memphis, Tenn. . . . GERRY E. VENEMAN, vice pres. and director of



Henry Rigby (left) is new Vice Pres., Corporate Development, for Champion . . . Karl Bendetson (middle), now Vice Pres. i/c all Champion Operations . . . Succeeded by Stephen Chase Jr. (right) Vice Pres. and Mgr. of Texas Division . . .

Mr. Rigby will direct plans for company growth in all lines. He joined Champion Paper & Fibre's legal dept. in 1947, has headed operations since 1954. Recently Mr. Chase has been asst. gen. mgr. at the Pasadena, Tex., mill, after starting there as production mgr. He went to Texas from Hamilton, O., mill where he was asst. to production mgr. He started with Champion as technical asst. in 1940. Mr. Bendetson now headquarters in Hamilton. He had been in Texas most of time since joining Champion Paper & Fibre Co. in 1952 after serving as under secretary of army in Washington, D.C. He had been a Washington State attorney, youngest full colonel in army after Pearl Harbor, and later was director general of American railroads.

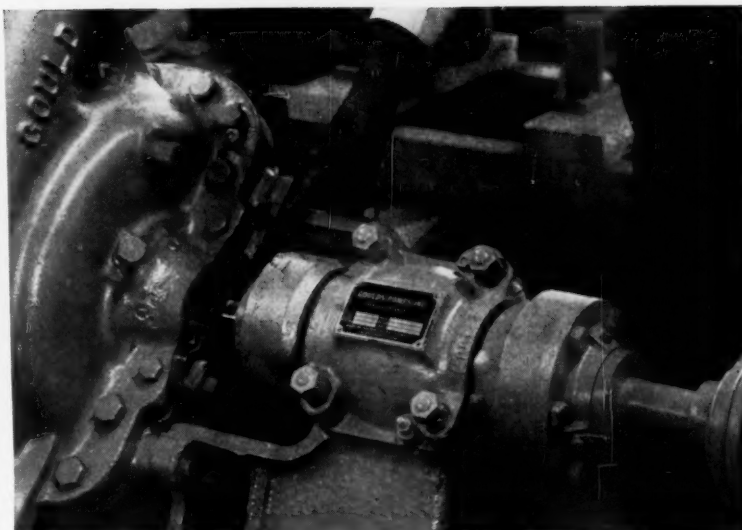
sales, Nekoosa-Edwards Paper Co., was appointed a director of Nekoosa-Edwards Foundation. . . .

The son of W. E. (BILL) ERICKSON, supt. of the soda mill, The Northwest Paper Co., W. E. JR., was married in mid-September to a Cloquet girl and family friends from other mills, on hand for the Supts. convention in Duluth, were able to attend. . . .

STANLEY C. STRATTON, asst. chief engineer for Minnesota & Ontario Paper Co., retired after 25 years service with the company. Associates led by BILL SCHLAFGE, gen. mgr., and FRED BOECKH, asst. gen. mgr., at the International Falls mill, honored him at dinner and presented him with a portable TV. "Stratt" was a "graduate" of the famed Hardy S. Ferguson pulp and paper engineering firm. . . . ERNIE R. GUSTAFSON, resident engineer at the Falls, was toastmaster. WM. C. RINDSLAND, recently of Jesup, Ga., and Cloquet, Minn., mills, succeeded "Stratt". . . .

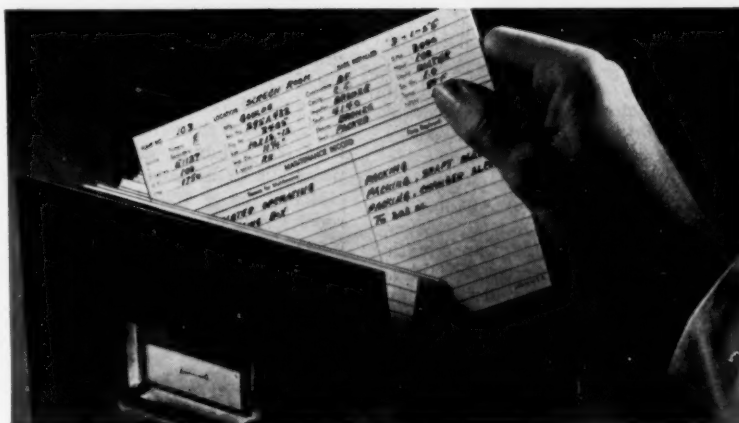
HENRY STORMO is now supt. of electric power at the M & O Falls mill, succeeding OSCAR SANDSTROM, who retired after 40 years and received a gift watch from associates at a dinner. NORMAN SELSAAS moved up to assistant. . . .

PAUL A. HAAG, formerly of Kimberly-Clark's Niagara Falls, N.Y., mill is new plant engineer at K-C's Munising, Mich., mill, succeeding BILL BEERMAN, who moved up to Munising mill mgr. Mr. Haag is a graduate of Notre Dame. . . .



Pump maintenance more important than ever.

Today good pumps are made of materials suited to their jobs. Many, with fluid ends of new, longer-lived alloys, are built to resist corrosion and abrasion longer—much longer. They probably represent more investment per pump. But they'll pay off. All they need is better mechanical attention to match their longer life.



Good way to keep your pumps running longer.

Use a set of these Goulds Pump Maintenance Record Cards. They make it easy for you to set up regular lubrication-inspection schedules; help you plan pump repairs during normal plant shutdowns; give you an accurate "history" on each pump, as a guide to the best materials of construction for your pumping conditions.

Get your Pump Maintenance Record Cards, free, from your Goulds representative, or write direct.



GOULDS PUMPS, INC.

Seneca Falls, N. Y., Main Office and Works

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Brookline, Mass.

CHICAGO, 53 West Jackson Blvd.

HOUSTON, 2314 Main Street

NEW YORK CITY, Room 1503, 11 Park Place

PHILADELPHIA, 2099 North 63rd Street

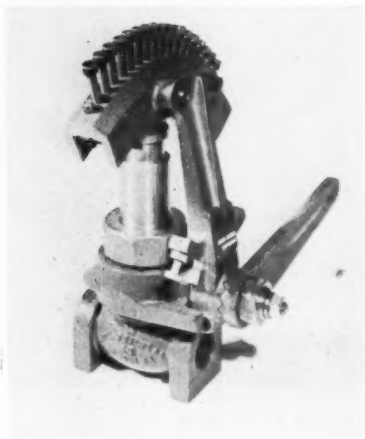
PITTSBURGH, Room 512,

Bessemer Bldg., 104-6th Street

TULSA, 543 East Apache Street,

P. O. Box 6157

West Coast Representative: GOULDS PUMPS Western, Inc., 1919 N.W. Thurman St., Portland 9, Oregon
In Canada: The A. R. Williams Machinery Co., Ltd., in all principal cities



Control Valve Has Adjustable Cam

Valve, Atlas type 235, is designed to control and maintain certain rate of flow between two variables such as air and fuel oil and oil-fired steam boiler. It may also be used where flow of two liquids must be kept within specified ratios such as control of steam for atomizing fuel oil, control of steam-driven blowers or stokers or gas-air ratios to burners.

Valve has flexible sheet metal cam, contour of which is adjusted by 24 screws. Cam is attached to a lever which moves it in accordance with demand motion from other variables. Roller on stem presses against the cam and in following the pattern of the cam adjusts flow through valve. Atlas Valve Co. is at Newark 5, N.J.

Pump Impellers Can Be Trimmed

A wide range of operation is for the asking by merely trimming the Mono-Vane single-passage impellers without separate counterbalancing. This is a feature of a series of horizontal and vertical non-clog pumps by Aurora Pump Div., The New York Air Brake Co., 9 Loucks St., Aurora, Ill.

Other features: Operation is quiet and smooth; steep curves give excellent non-overloading characteristics; discharged may be turned to various positions; casings come with clean-cut opening; detachable suction and packing covers provide ready access to impeller areas.

Applications: elevating sewage, pumping sludge, handling of heavy settleable solids, effluent and other wastes.

Bucket Extends Cable Life

Owen Bucket Co.'s "SCL" wide material handling bucket features a closing line lead straight through center plane of the bucket to the first lower sheave. This eliminates bending of closing line around the guide sheaves as in a conventional block and tackle and lever arm buckets. All sheaves are larger diameter and closing line sheaves are grooved for size of rope used.

Cable and roller wear is further reduced through use of longer, larger diameter three sectional bronze bushed rollers in the head. Owen is at 6012 Breakwater Ave., Cleveland, Ohio.

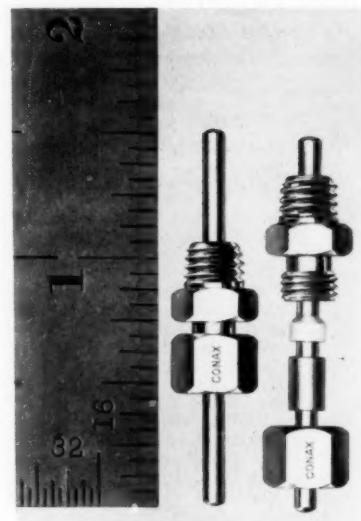
New Used Equipment Sale Plan

The Construction Equipment Div., International Harvester Co., announces a plan for selling used equipment through distributors. This program is called VM (Value Measured) Used Equipment.

The distributor reconditions or rebuilds a used machine and then measures the value of each major component such as engine, transmission, clutch, tires or tracks, etc., and lists repairs and their cost on component tags on the machine.

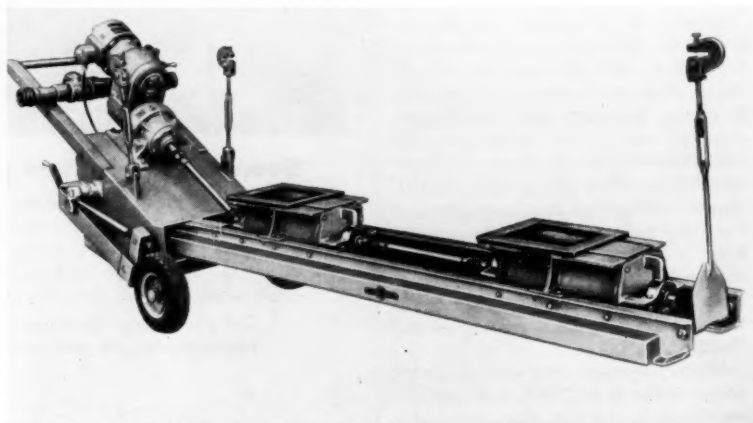
Packing Gland Is Tiny

This new Conax Micro Packing Gland is the smallest manufactured by the Conax Corp. and one of smallest



in the industry. Measures: 21/32-in. long and 11/32-in. hex.

Features: may be used to seal tubes of any material because of the "soft" sealant. Simple assembly requires only sliding in the tube, rod or wire and tightening the cap. Conax is at 2300 Walden Ave., Buffalo 5, N.Y.



Unloader is Portable

Portaflow is Sprout-Waldron & Co.'s portable pneumatic unloader which attaches to outlet of airslide cars for handling bulk materials such as clay, synthetic resins, urea, etc.

Features: Variable speed drive to

adjust feed rate of flow; NEMA type V magnetic starter with pushbutton controls; each wheel independently adjustable; positive simple clamp and turnbuckle for air-tight frame attachment to car and its own valves to regulate air flow. Details from Sprout, Waldron at Muncy, Pa.



Timber Cruiser Is Fast

This rubber-tired, self-propelled logging machine is designed for fast, economical yarding and skidding, combines maneuverability in rough country with high speed travel.

Features: powered by 150 hp Cummings diesel operating through Clark torque converter and Clark power shift transmission; working speeds to 13 mph; travel speeds to 28 mph.

Arch boom: mounted on rollers for unusual traction and braking power by lifting load and bringing it forward over the wheels. Operator has constant control and option of 2 or 4-wheel drive and 2 or 4-wheel steering. Entire chassis can be tilted for work or travel on hillsides.

Manufacturer: Garret Distributors, 800 Stevenson Ave., Enumclaw, Wash.

Butterfly Valves Rubber-Seated

A new line of butterfly valves, featuring a rubber seating principle and unusual operating characteristics, is announced by Darling Valve & Manufacturing Co., Williamsport, Pa.

Manufactured under agreement with the designer, Pelton Division, Baldwin-Lima-Hamilton Corp., the valves are trade-named Darling-Pelton butterfly valves and have had extensive laboratory and field testing by both organizations.

Advantages claimed: Lower operating torque, adjustability of seat for tight shutoff, seat replacement without removal of shaft or operator, elimination of shaft sealing problems as the rubber seat is a continuous ring integral with the disc, and, increased operating cycles before part replacement or maintenance is necessary. They range from 4 to 72 in. in sizes for pressures of 50 to 250 psi.

New Design in Venturi Tubes

Venturi tubes with stainless steel metering sections are now produced by Vector Manufacturing Co., Inc., to make use of low cost production methods with stainless steel. Two general styles are offered: a complete ven-

turi and an insert style in which the metering section fits into the existing pipe. Write to Vector Manufacturing Co., Inc., Jenkintown, Pa.

Controls Moistening of Paper

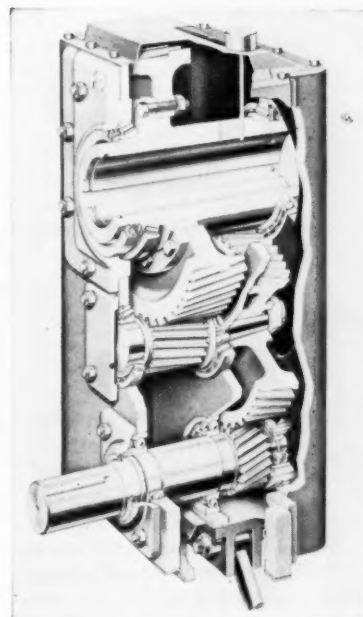
J. O. Ross Engineering Corp. announces a new web conditioner for controlling the addition of moisture to paper and paperboard. Material travels continuously through the conditioner between opposing banks of steam nozzles. Steam pressure is regulated to control the addition of moisture as desired. An 8-page bulletin on the conditioner may be obtained from J. O. Ross Engineering Corp., 444 Madison Ave., New York, N.Y.

Rope Stretcher Air-Loaded

A new rope stretcher featuring an air cylinder loading operation, plus special alloy aluminum sheaves and sealed antifriction bearings, has been added to the rope carrier equipment line by Patton Mfg. Co., Inc., 1802 West Pleasant St., Springfield, O.

Square tubing forms the tracks in which the carriages run on antifriction bearings. Rope tension is maintained by air cylinders mounted inside the tubing. This completely eliminates the use of weights.

Drive of Larger Capacity



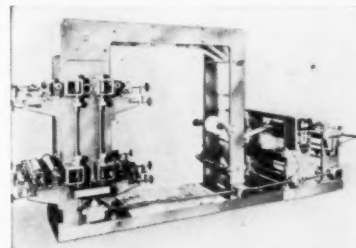
The Falk Corp. announces a completely new, larger capacity shaft mounted drive. The all steel 315J Falk shaft mounted drive is available in

single reduction ratio of 5:1 and in two double reduction ratios of 14:1 or 25:1. Unit ratings range from 2hp at 5rpm to 50hp at 359rpm; maximum torque rating at low speed shaft is 31,000 lb-in.

A longer center distance between shafts permits use of larger sheaves on installations where unit is mounted with input shaft toward driven machine or on through-shaft applications. Inspection covers on the 3-wall one-piece all steel housing provide easy inspection of bearings and gears.

An automotive type dip stick is provided for a quick check of oil level. For more information, including selection and dimension tables, write for Bulletin 7100 to The Falk Corp., Dept. 255, 3001 West Canal St., Milwaukee 1, Wis.

Press Combines with Bagmaker



Parsons & Whittemore Graphic Corp. is now U.S. distributor for the KleinaRotoplast combination multi-color flexographic press and bagmaker made by the Bielloni Co., Milan, Italy.

Features: prints paper, cellophane, polyethylene, etc., in 2, 3, or 4 colors up to 325 fpm. The bag machine is an automatic roll-fed unit that cuts and heatseals either flat or gusseted thermoplastic tubing. Makes bags at speeds up to 12,000 per hr. for smallest size (4½ in.) to 2,500 per hr. for largest (31½ in.).

Valve for High Temperatures

For water, steam, gas or air service at temperatures up to 850° F. and for oil or oil vapor up to 1000° F., a new line of 600-lb. steel wedge gate valves has been designed by Walworth Co., 60 E. 42nd St., New York, N.Y.

Valve body is of forged carbon steel. This valve has a non-shock pressure-temperature rating of 420 psi at 1000° F., and a rating of 2000 psi at 100° F. Stem, wedge and seat rings are made of 13 per cent chromium stainless steel for longer service life. The wedge has a hardness of 500 Brinell and is accurately guided by ribs in the body.

Fact 1

Once in a while a better product is made, and made so well, that it becomes the standard by which all similar products are judged.



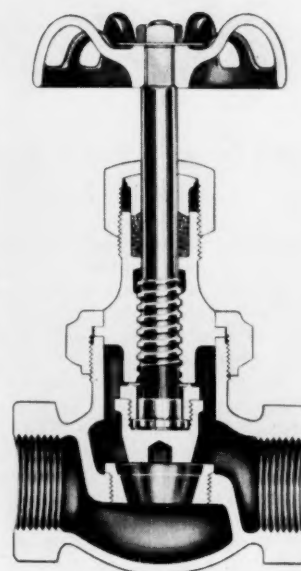
Fact 2

The preference that you and millions of other users have shown for the RIDGID Pipe Wrench puts on us the responsibility of keeping it always up to the top quality you expect of it.

The Ridge Tool Company, Elyria, Ohio, U. S. A.

PULP & PAPER

Equipment
& Supplies



Valves for Corrosive Areas

They are also designed for use where frequent operation causes excessive wear to ordinary materials.

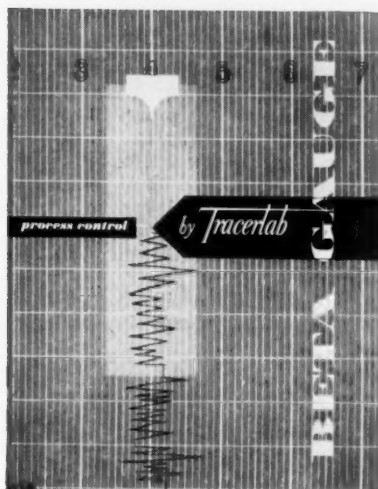
These plug type globe and angle valves with 500-plus Brinell hardened stainless steel seats come in 150 and 200 lb. working steam pressure classes and 8 sizes from 1/4-in. through 2-in., feature a union bonnet for added strength at centerpiece joint. Ohio Brass Co., Mansfield, O.

Lift Truck Small and Maneuverable

This electric lift truck comes in 1,000 lb., 2,000 lb. and 3,000 lb. capacities, and provides a small, versatile and maneuverable lift truck.

Features of Hustler PUG: 60-in. length, minimum turning radius: 52-in. Operating features: 4 forward speeds up to 6 mph plus reverse; a dead man brake; lift controls and directional controls on steering wheel; powered by 24 volt lead-acid batteries, housed in removable trays under the driver's seat. Interesting is unitized assembly of power and drive unit which can be "dropped-out" by removal of 6 bolts. This unitized assembly consists of front wheels, axle, differential, gear reducer, motor and brake assembly. The Hustler Corp. is at 17545 Elm Rd., Willoughby, Ohio.

Tracerlab
offers
industry's first
complete
handbook on
radiation
gauges



Available for the first time — a complete non-technical explanation of how this modern production tool works to help you reduce waste and improve output and quality. It covers types of gauges and gauge components for a variety of applications in thickness measurement and automatic process control. Your copy is registered and automatically kept up to date to keep pace with changing technologies.

For your free copy write to:
Technical Publications
Department

Tracerlab
1601 Trapelo Rd., Waltham, Mass.
2030 Wright Ave., Richmond, Calif.

LITERATURE...

New Ammonia Book . . .

A new, 68-page technical data book on anhydrous ammonia and ammonia liquor has been prepared for industry by Nitrogen Division, Allied Chemical & Dye Corp., Dept. ALA, 40 Rector St., New York 6, N.Y. The book lists their chemical and physical properties, specifications, handling and storage features, unloading methods, analytical procedures, and bibliography.

New Book on "Pulp Bleaching"

A comprehensive 60-page book "Pulp Bleaching" (Bulletin 200) is now available without charge from Hooker Electrochemical Co., Niagara Falls, N.Y. Written by John D. Rue in cooperation with other members of the Hooker staff, it is a compendium of basic knowledge about bleaching. It contains 52 illustrations showing process flow sheets, diagrams of equipment, and graphs. Subjects covered are bleaching stages, procedures and systems, including chlorination, chlorine dioxide and peroxide, hypochlorite and combinations, also materials handling, equipment and instrumentation.

Catalog Deals with Bleaching

Part A of Section 2 of Sandy Hill Iron & Brass Works' Centennial Catalog is off the press. Section 2, in its entirety, will cover Sandy Hill's broad range of equipment in the pulp processing field. Part A deals specifically with pulp bleaching equipment as designed by Kamy and manufactured by Sandy Hill.

A history of the vital role Kamy has played in the revolutionary progress in pulp bleaching methods since 1930 is given.

Part B of Section 2 of the Catalog will be released soon. It will deal largely with the Kamy feltless wet machine.

Gaskets and "O" Rings

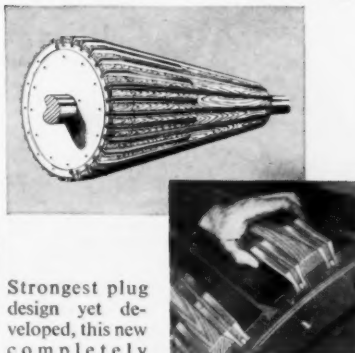
A complete line of gaskets, back-up rings and "O" rings impervious to most destructive acids, alkalis, corrosives and solvents at temperatures from -120° F. to $+500^{\circ}$ F. are described in a new brochure. Information includes service and mechanical recommendations, data on operating pressures, sizes and dimensional details.

The gaskets, back-up rings and "O" rings are fabricated from DuPont Teflon under the registered Crane Packing Co. trademark, Chemlon. Gaskets are available in solid or envelope types.

Ask for bulletin P-327, Crane Packing Co., 6400 Oakton Street, Dept. PPC Morton Grove, Ill. (In Canada: Crane Packing Co., Ltd., Dept. PPC 617 Parkdale Avenue, N., Hamilton, Ont.)

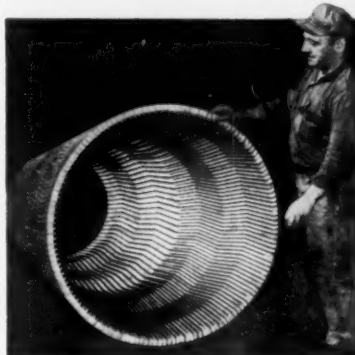
TIME FOR REPLACEMENT?

Jones
Adapta-Plug



Strongest plug design yet developed, this new completely bandless Jordan plug is easiest to strip and fill. New, improved design holds bars firmly in place, eliminates hazards of slot wear and corrosion. Available in solid plug — or sleeve form for easy conversion of old worn plugs. Write for Bulletin EDJ-1094.

Jones
FULBAR
SHELL FILLINGS



A complete one-piece assembly, made to fit the shell body of any Jordan. No keys or wedges. Fulbar rigidity and one-piece construction compensate for inequalities in old Jordan shells — save hours of installation time. Many other new advantages make this the ideal shell filling. Write for Bulletin EDJ-1094 and names of satisfied users.

E. D. JONES & SONS COMPANY
Pittsfield, Massachusetts

Builders of Quality Stock Preparation
Machinery

In Canada: The Alexander Fleck, Ltd., Ottawa



**Only
.0006 minutes
down time
per ton!**

A plant engineer proves that WARREN Stock Pumps slash maintenance costs

Here are the figures that proved to the plant engineer of a large eastern paper mill* that Warren Stock Pumps stand up longer with less maintenance:

116 minutes down time
190,000 tons of stock = only .0006 minutes down time per ton!

These figures were compiled over a period of several years, during which the pumps operated continuously—24 hours a day, 7 days a week. Under the same severe conditions, non-Warren pumps handling the same services required much more down time attention.

By actual figures, this plant engineer verified his confidence in selecting Warren Pumps for the vital job of transferring paper stock at all consistencies—with a very minimum loss in maintenance time.

Work stoppages due to pump failure cut production, jump costs. Discuss your problem now, with a Warren Pump specialist.

*Cascade Plant, Brown Company, Berlin, N. H.



Use the coupon below for quick and helpful information on Warren performance-tested stock pumps.

PP-39

WARREN PUMPS, INC., Warren, Massachusetts

Gentlemen:

Please send me free Stock Pump bulletins No. 234, No. 235 and No. 243. I understand they will help me select the pump best suited for my requirements.

Name and Title _____

Company _____

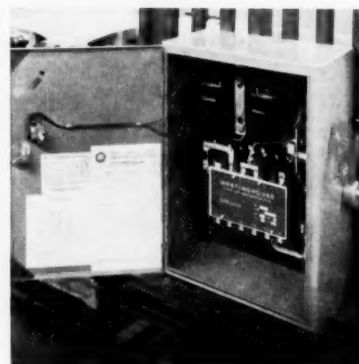
Address _____

City _____ Zone _____ State _____

☐ PLEASE HAVE YOUR REPRESENTATIVE CALL.

PULP & PAPER

Equipment & Supplies



Offers New Autostarter

A new a-c manual nonreversing autostarter (Type JF) by Westinghouse starts squirrel-cage induction motors from 5 to 125 hp at 220 volts, and from 5 to 250 hp at 440/550 volts. The unit is designed for use wherever across-the-line starting current of motors exceeds local power company restrictions or interferes with plant operations.

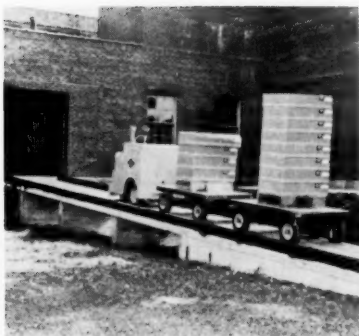
The JF autostarter is housed in a shallow, wall-mounted NEMA 1 general purpose enclosure but NEMA 4 watertight or NEMA 9 class 2 group G enclosures are also available. The line has five sizes, numbered 2, 3, 4, 5 and 5L, according to horsepower requirements.

The autotransformer is of the two coil type, and is connected open delta. It meets NEMA standards permitting a cycle of one 15-second start in each four minute interval, for a total of four starts followed by a two-hour rest period. Transformer taps provide starting voltages of 65 per cent and 85 per cent of line voltage; starters larger than 50 hp also have a 50 per cent tap.

For further information, write Westinghouse Electric Corp., P. O. Box 2099, Pittsburgh 30, Pa.

Drive for Powerized Truck

A new, bantam-sized LPG-electric power unit, model W12 which is designed to fit electric powerized hand trucks, is announced by Ready-Power Co., 3826 Grand River Ave., Detroit 8, Mich. Believed to be the first LPG-electric power unit for hand trucks, the model W12 features instantly available, continuous duty electric power plus the well-known economy, long life and low maintenance of LP-gas operation.



Runs Sans Operator

Guide-O-Matic tractor—without an operator—takes heavy load up a 8.5% ramp at the plant of Beckett Paper Co., Hamilton, O. In this plant there is a large and recurrent movement of finished paper between warehouse and shipping, 400 feet away. Formerly skids were carried over the route by a street truck—a slow, costly and unsatisfactory operation.

This heavy duty Guide-O-Matic tractor, pulling two trailers, hauls about 4000 lbs. per trip, is powered by a 24-volt Exide battery, stops automatically at the proper loading and unloading stations. It is started by a push button on dashboard. The tractor is controlled by means of radio waves, which transmit guidance signals through a guide wire buried beneath the surface of the route. For information write Barrett-Cravens Co., 628 Dundee Road, Northbrook, Ill.

Tensions Heavy Duty Strapping



Sturdy, compact and lightweight, this Model WN-114 Stretcher lets air power do the hard work of tensioning strapping on crates, skids and freight car bracing. Provides up to 3,900 lbs.

pre-determined tension, virtually eliminates operator fatigue.

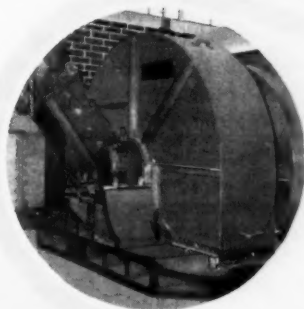
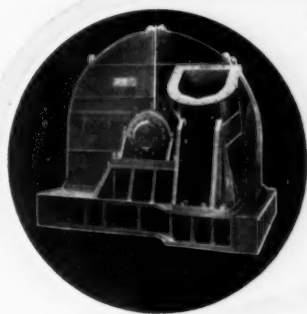
Features: handy cutter attachment to quickly cut off excess steel strapping and a long-service rolling gripper that makes it easy to disengage strapping. Signode Steel Strapping Co., 2600 North Western Ave., Chicago 47, Ill.

Ground Detector and Alarm

In three phase systems a voltage fluctuation in any phase will change

voltages and ground potentials on the other two phases. This is never immediately evident but does create serious hazard to men and equipment. Even small amounts of excess grounding, due to motor, transformer or wire faults will shorten motor life and raise power bills. The PRD-C5700 Ground Detector is an electrical device with visual and audible alarms that indicate ground faults before they can do any damage. For details write for Bulletin C57 to Principle Research and Development Co., Box 93, Franklin Park, Ill.

GET
**More Uniform
Chips** WITH-



MURCO Chippers are made in standard sizes from 36" diameter discs . . . for round wood, sawmill slabs, edgings and veneer cores, etc.

A complete and detailed story on pulpwood and wastewood chippers is contained in the MURCO Chipper booklet . . . specifications of each model. We will gladly send you a copy upon request . . . Write for it today.



MURCO Uni-Chip design of chipper disc wear plates and knife covers produces a more uniform chip with less bruising. The MURCO Uni-Chip design is obtained by machining the wear plate and knife cover surfaces in several planes, resulting in a modified helix. No change in chipper knife design or grinding is required. MURCO Uni-Chip is furnished, when specified, on all new MURCO Chippers or your present MURCO Chipper can be adapted to it. For high volume production of uniform chips, specify MURCO Chippers with Uni-Chip.

**D. J. MURRAY
MANUFACTURING CO.**
Manufacturers Since 1883
WAUSAU • WISCONSIN

Strictly Personal

EVERETT T. MAUGER is head of market research for Alton Box Board Co., announces MARVIN W. SWAIM, president.

G. C. RADKE retires as res. mgr. of Kieckhefer-Eddy div., Weyerhaeuser Timber Co., Three Rivers, Mich., after 41 years service. He will become president of a new bank in Three Rivers. MERRILL THOR returns from the Chicago office to become res. mgr. . . . FOLKE

BECKER, JR., is new sales representative in the Wausau, Wis., area for Wausau Paper Mills Co. of Brokaw, Wis., and will also engage in development of mill projects including new finishes. He was sales rep. in Minneapolis. . . .

ROBERT S. HOWARD has been promoted to technical asst. to Paper Mill Supt. EMIL DAMP at Wausau Paper Mills. Mr. Howard is a graduate from Marquette University and spent six years at the In-



H. W. Suter (left), is new Senior Vice Pres. of Champion . . . H. W. Suter Jr. (right), is Vice Pres. and Gen. Mgr. of Sales . . .

Father and son head new depts. in Champion Paper & Fibre Co. The father heads a marketing dept., for increased marketing activities and long range planning. The son heads new sales division to handle all sales of pulp, paper and board. Mr. Suter, Sr., who joined Champion in 1911, also will aid Pres. R. B. Robertson, Jr., in supervising Champion merchant subsidiaries. Mr. Suter, Jr. has been with Champion since 1937, except for wartime air force service.

stitute of Paper Chemistry. He has been process engineer with Wausau since 1954. Other promotions at Brokaw: PATRICK J. NOLAN, supt. of finishing, shipping and customer service; EUGENE WOLLER to laboratory to coordinate sample dept. He is succeeded as finishing room inspector by JOHN NELMARK. . . .

CHARLES T. ELLIOTT succeeds H. R. KNOTT as sales vice pres. of Wausau Paper Mills, Brokaw, Wis. Mr. Knott is retiring but will continue as a consultant. . . . Directors of the Marathon Corp., Menasha, Wis., elected EMMETT W. BELOW vice pres.-finance and JAMES P. BUCHANAN, treas. ALDEN H. CHRISTIANSON was appointed controller and WILLIAM J. STEINMETZ, asst. treas.



Harold Skinner, Pulp Sales Dept., Marathon Corp. . . .

. . . will assist Ralph Fannon, manager of pulp sales, till he retires in mid-1958. Mr. Skinner has been supt. of Rothschild, Wis., Pulp Mill for 15 years.

RADER HANDLES EIGHT JOBS WITH TWO HANDS



Two Rader pneumatic conveyors do the work of eight ordinary installations in this system, operating at Longview Fibre Co., at Longview, Washington. Two pipes speed chips to a storage pile at one end of the plant, two to a pile at the other end. Two others transport chips to the screen room in the plant, the others feed digester storage. Chip flow can be diverted through the lines by swift, easy-operated valves that take only a moment to switch. The versatile lines take the most convenient route to their destinations, climbing vertically to carry their loads over the tops of buildings and around the many obstacles in a pulp mill. Many types of valve systems are available for each individually-designed Rader job. There virtually is no limit to the distances or delivery problems that can be overcome with a Rader pneumatic conveyor.

RADER PNEUMATICS, INC.

1739 N. E. 42nd Avenue

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4645 Main St.

Preston, Ont.
Canada

Eureka, Cal.
Box 61

Boston, Mass.
No. 10 High St.
Rm. 716

Memphis, Tenn.
Box 3722
Municipal Airport



E. Howard Smith (left) Retires as Chairman and President . . .

. . . of Howard Smith Paper Mills Ltd., Montreal, Que. He has been with the company, founded in 1912 by his father, since 1920.

H. Roy Crabtree (center), Chairman . . .

. . . is also chairman and president of Woods Manufacturing Co. Ltd., president and managing director of Wabasso Cotton Co. Ltd., and director of other Canadian companies.

D. S. Abbott (right), President . . .

. . . joined Howard Smith in 1944. He has been president of Arborite Co. and of Alliance Paper Mills Ltd. and subsidiary companies. He is a director of Conso-weld Corp., U.S.A., and Diamond State Fibre of Canada.



Richard L. Hoff (left), new Riegel pulp sales rep, George Johnson (middle) and Dean Graham, both of DuPont Pigments . . .

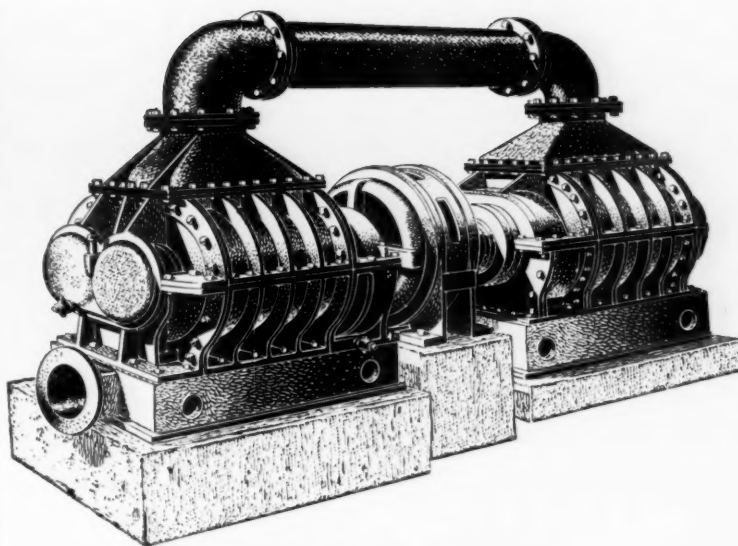
. . . after a golf round at Kalamazoo Fun Day. Mr. Hoff was chief chemist at Riegel's Milford, N.J., mill, but now covers Wisconsin to New England for Riegel Carolina market pulps. He graduated from Purdue, took graduate work at Northwestern. Mr. Johnson is DuPont Detroit branch mgr., Mr. Graham is field rep, residing in Kalamazoo, . . .

Canada . . .

Memo from CLS . . .

JANE COCHRAN JONES, wife of TOMMY JONES, mgr. of industrial relations, Dryden Paper Co., won the Dryden golf club women's championship with a gross of 125 for 27 holes. She formerly had won several championships in the Port Arthur area when living there. . . .

BEN COTTERILL is new St. Regis rep. for pulp and paper products sales in Toronto (360 Bay St.), moving there from Vancouver, B.C., to succeed COLIN MAR-



R-C high speed vacuum pumps cost less to install and operate

Outstanding performance over many years in hundreds of applications in paper and other process industries have built a strong preference for Roots-Connorsville vacuum pumps.

- Reduced horsepower at higher speeds (600 rpm and up) saves as much as 25% in power and lowers the cost of motors.
- Minimum sealing water required, from 4 to 40 gpm. Performance is unaffected by water temperature.
- Straight spur gears permit operation without axial thrust, reducing maintenance and holding downtime to a minimum.
- Internal parts readily accessible for inspection without disturbing impeller clearances.
- Compact units require small floor space and less expensive foundations.

R-C vacuum pumps are supplied in single-stage or compound units to meet any capacity requirement. For specification data, write for Bulletin 50-B-13.

.....
Engineers—unusual career opportunities await you at Roots-Connorsville. Address your resume to Professional Employment Manager.



ROOTS-CONNORSVILLE BLOWER

A DIVISION OF DRESSER INDUSTRIES, INC.



1057 Willow Avenue, Connorsville, Indiana. In Canada—629 Adelaide St., W., Toronto, Ont.



**"If you're looking
for clean-cut chips
—look to DISSTON!"**

Each Disston Chip-Master Chipper Knife is made of high-alloy steel. Each is specially heat treated and tempered to hold its edge under severe operating conditions. Each is hard and tough at the business edge, softer at the slots to absorb shocks. And each knife face is ground super-smooth to give extra-clean, money-saving chipping.

See your Disston distributor today . . . and see for yourself why Disston Chip-Masters are first choice with those who demand low-cost knife operation.



**SAVE ON KNIFE
RESHARPENINGS
AND REPLACEMENTS**

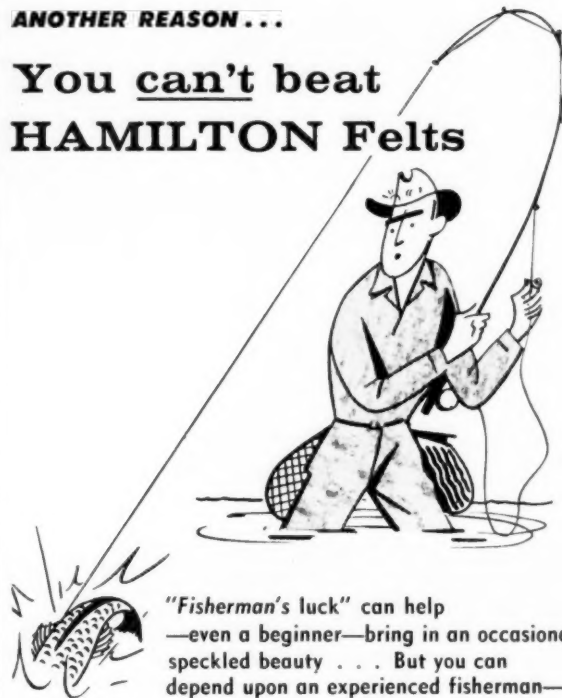
with Disston 866 Paper Knives. Edges stay sharp, won't roll under or chip out. For free booklet, write to *Henry Disston Division, H. K. Porter Company, Inc., Philadelphia 35, Pa.*

H. K. PORTER COMPANY, INC.
Henry DISSTON DIVISION

**"WATER
CONDITIONED" . . .**

ANOTHER REASON . . .

**You can't beat
HAMILTON Felts**



"Fisherman's luck" can help—even a beginner—bring in an occasional speckled beauty . . . But you can depend upon an experienced fisherman—wise in the ways of a fly with a trout—to bring home the most fish—consistently!

So why trust to "fisherman's luck" in fishing—or in ordering felts?

Since 1858, Hamilton Felts have been "water conditioned"—not to shed water like a fish—but to run water like a sieve, deliver drier sheets to the driers, permit operators to operate machines at higher speeds—with fewer stops and less broke. Isn't this the professional performance you'd like felts to give? Then, why not contact us—today?



HAM FELTZ says:

"Good 'health is priceless—even a rich man can't afford an accident."

Contributed by R. T. Cleveland.



Have you a pet safety slogan? Send it to Ham Feltz. We like "floods"—of mail.

**SHULER & BENNINGHOFFEN
HAMILTON, OHIO**



Arthur Damman, Plant Engineer, Alaska Lumber & Pulp Co., Inc. . . .

. . . comes from Ketchikan Pulp Co., where he was instrumentation and process engineer. Daniel J. Doswell, formerly personnel manager, Columbia Cellulose Co., Ltd., is appointed manager of public relations/personnel depts. The first loads of construction equipment left Everett for Sitka recently.

QUIS, now manager of St. Regis pulp sales in Montreal. . . .

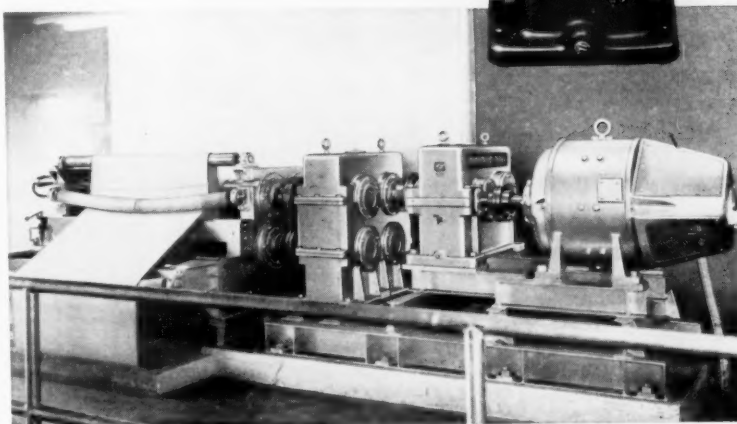
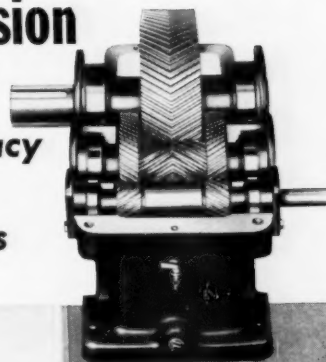
Mr. and Mrs. JOHN WING (he is new general manager of Dryden Paper Co.) and their two children, expect to move in their new home, now being built on the river at Dryden, Ont., by Christmas. They have had several rooms in the staff house and a summer cottage on a nearby lake. . . .

ROBERT T. HOUK is new manager of The Great Lakes Paper Co. Ltd., Fort William, Ont. . . . New directors of Howard Smith Paper Mills Ltd., Montreal, Que., are W. N. HALL, pres. and director of Dominion Tar and Chemical Co. Ltd.; Hon. GEORGE B. FOSTER, member of Foster, Hannen, Watt, Leggat and Colby, Montreal, pres. of Dominion Wire, Rope and Cable Co. and member of Legislative Council of Quebec; and J. EDOUARD SIMARD, vice pres. and director of Marine Industries Ltd., pres. of Sorel Industries and chairman of Sicard, Inc. . . . JOHN MCINTYRE, "Mr. Powell River," died recently at the age of 78 after several months' illness. Called by the Powell River Digester "the most popular and best known man in town," Mr. McIntyre joined Powell River in 1915 and from 1919 to 1935 was townsite manager. For over ten years he has been the Powell River Sales Co. contact with customers and friends arriving in Powell River. . . .

F. S. SEABORNE, exec. vice pres., Kimberly-Clark Corp. of Canada, announces election of W. F. COOK, native of Montreal, as new vice president. He will coordinate industrial relations for all Canadian operations. From 1944 to 1948 he served as both mill manager of Kimberly-Clark of Canada and personnel manager of Spruce Falls Power and Paper Co. Returning to the U.S. in 1949, he became director of K-C's industrial relations and assistant to the executive vice pres. . . .

Waldron selects **H & S** power transmission

*for sustained accuracy
in tire fabric
tensioning process*



Today's rugged, heavy-duty tires call for extra measures in manufacturing to insure dependability and longer life. An important process at Goodyear Tire and Rubber Company is this Nylon Tire Cord Unit designed and built by the John Waldron Corporation, New Brunswick, N. J. Its function is to apply tension to the basic Nylon cord fabric before it is calendered with rubber—a process that limits "growth" to an acceptable minimum when tires are in use.

Essentially a stretching process that takes place while the fabric moves at a fair rate of speed, exacting power requirements must be maintained. A double reduction herringbone H & S speed reducer was recommended by H & S engineers, to be energized by a 150 H.P. motor. Power is then distributed to the tensioning machine rolls by a special H & S four shaft roll drive.

Here's an important job for which H & S equipment is well suited. The use of anti-friction bearings throughout, generous size of shafts, gears and housings, and accurate machining to close tolerances assure long life and completely satisfactory performance. Consult your H & S representative or write us, for help in selecting Speed Reducers, Roll Drives or precision gears of many types—for dependable power transmission.

THE **HORSBURGH & SCOTT CO.**

GEARS AND SPEED REDUCERS

5112 Hamilton Avenue
Cleveland 14, Ohio

Slabs Completely Barked without Splintering!



Carthage Slab Barker

The urgent need for minimizing forest waste has led to wide interest in the new Carthage Slab Barker which removes bark by scraping—not flailing—safely and thoroughly without splintering the wood. Maintenance costs are exceptionally low.

Three barking heads, hydraulically adjustable to fit the contour of the slab, are equipped with scrapers welded on steel roller chains. Cuts overlap for complete bark removal.

Power feed is foot controlled, leaving operator's hands free to adjust barking heads to each slab. Capacity, 1.5 to 2 cords of rough slabs per hour; maximum slab size, 16" wide and 7" thick.

Write for Bulletin SB-10A

Complete the Job with a Carthage Slab Chipper and a Carthage-Dillon Chip Screen.

Ask Your Carthage Representative

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Tidewater Supply Co., Inc.
W. L. Smith
Box 377, Ph. 2-0163

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Tidewater Supply Co., Inc.
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Box 839, Ph. Madison 2-7311

Richmond 10, Va.
Tidewater Supply Co., Inc.
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Box 1259, Ph. 3-5361

Roanoke, Va.
Tidewater Supply Co., Inc.
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Box 1829, Ph. 3-1515

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511 Park Blvd.
Ph. Capital 3-2238

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Carthage Machine Co.
R. K. Strapp
Donald Reid
1645 Boulevard Edouard Laurin
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Ph. PLymouth 5-1134

CARTHAGE
MACHINE COMPANY
CARTHAGE, NEW YORK

WHEN SPECS CALL FOR...

PROCESS TANKS

custom
fabricated
on the
West Coast

Save on transportation costs, manufacturing time and put yourself in a more competitive position by contacting an experienced "on the spot" source when planning the procurement of process and plant equipment for the West Coast. Send prints for prompt quotation on your next job.



Request
Brochure No. P-57



**PUGET SOUND
FABRICATORS, INC.**

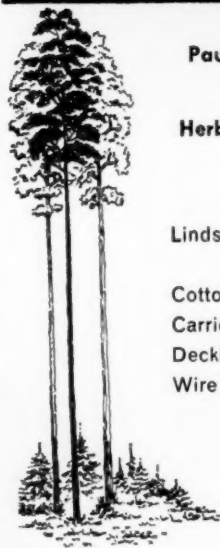
Craftsmen in Metals

3670 E. Marginal Way • Seattle 4, Wash.

Craftsmen in steel plate and alloys up to 1"

WILLIAMS-GRAY COMPANY

221 North LaSalle Street, Chicago 1, Illinois



Paul Foster • Peter Talbot
Ross Lawrence
Herb Fishburn • Wes Gallup
Bill French

Lindsay & Niagara Wires,
Knox Woolen Felts
Cotton & Asbestos Dryer Felts,
Carrier Rope • Splicing Tissues,
Deckle Webbing • Apron Cloth
Wire Brushes

PULP & PAPER

Strictly Personal

GERRY BOAS has joined the sales dept. of Black-Clawson (Canada) Ltd. in Montreal, in sales and servicing of Dilts converting equipment. He will also sell Dilts slitter rewinders. Mr. Boas was educated in the Netherlands and since 1925 his career in the paper industry has taken him to the Far East, Europe and Canada.

Preliminary plans for the 1958 International Mechanical Pulping Conference at the Chateau Frontenac, Que., are being made by J. K. KIRKPATRICK, Bowaters Southern Paper Corp., conference chairman; A. J. WINCHESTER, TAPPI; T. G. SHEPHERD, Donnacona Paper Co.; E. H. JOHNSON, Stevens & Thompson Paper Co.; P. M. QUINN, Quebec North Shore Paper

Co., R. A. JOSS, Tech. Section Canadian Pulp & Paper Assn.; K. L. PINGREY, Diamond Match Co.; A. A. YANKOWSKI, Kimberly-Clark Corp.; W. H. COPELAND, Norton Co. of Canada; M. S. ANDERSON, Oxford Paper Co.; and J. H. PERRY, Norton Co. . . .

H. R. MACMILLAN, as a young forester turned exporter, set himself up in business 38 years ago in a small office in Vancouver's Metropolitan Bldg. Eventually the \$48,000,000 company he headed spread over several floors of that building. Now, MacMillan & Bloedel, one of the world's great forest industry corporations, Vancouver Island, has moved into its own new \$2,200,000 eight-story building in

Vancouver. Of reinforced concrete and aluminum construction, the MacMillan & Bloedel Bldg. is notable for its extensive use of native woods in the interior decoration. . . .

JOHN G. MORRISON, formerly asst. mgr. of the Fort William, Ont., mill of Abitibi Power & Paper Co., has been appointed mgr. to succeed J. T. CAREY, who retires after 23 years' service. Mr. Morrison is a native of Vancouver, B.C., where he graduated from the University of British Columbia. He started in 1938 as asst. plant chemist with the British Columbia Pulp and Paper Co., Port Alice, B.C. He joined Abitibi in 1948 as senior chemist, Central Research. . . . WILLIAM B. BILLINGSLEY was named vice pres. and res. mgr. of a new subsidiary of Pennsalt Chemicals Corp., Pennsalt Chemicals of Canada, Ltd. Mr. Billingsley has directed Pennsalt specialty sales in Canada since 1954.

NSSC EVAPORATION

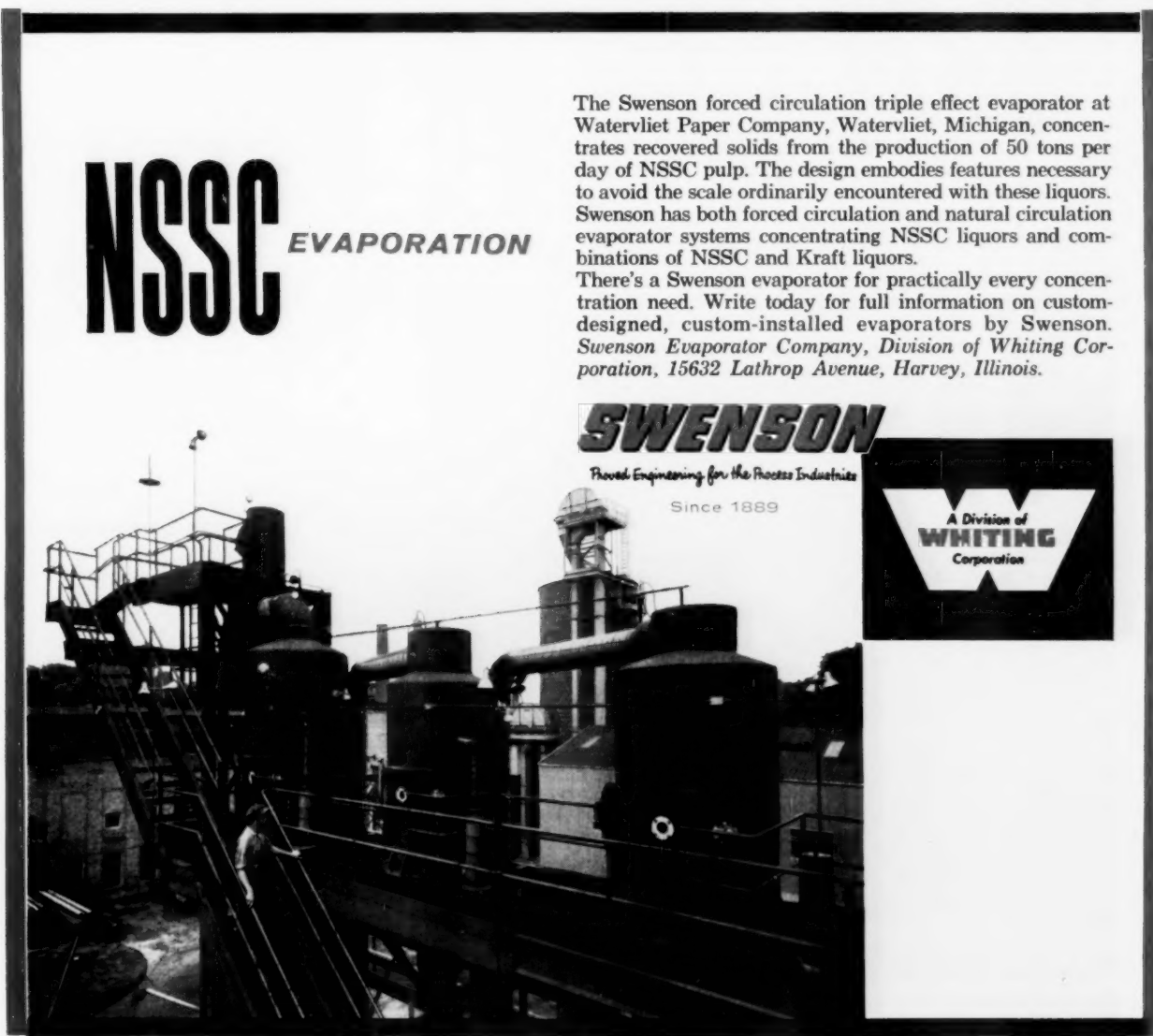
The Swenson forced circulation triple effect evaporator at Watervliet Paper Company, Watervliet, Michigan, concentrates recovered solids from the production of 50 tons per day of NSSC pulp. The design embodies features necessary to avoid the scale ordinarily encountered with these liquors. Swenson has both forced circulation and natural circulation evaporator systems concentrating NSSC liquors and combinations of NSSC and Kraft liquors.

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New Posts at Hercules

New assignments in Hercules Powder Co.'s Paper Makers Chemical Dept. are announced by M. M. Bixby, its director of sales.

J. HOUSTON McCLANE (left) transfers

to the home office, Wilmington, Del., as assistant sales manager, rosin size. DANIEL D. CAMERON (right) is new district sales manager in Atlanta, Ga., succeeding Mr. McClane, who held that position 11 years. The latter joined Hercules in 1939 after his graduation from U. of Florida. Mr. Cameron has been sales manager, Hercules Powder Co. (Canada) Ltd. for the past year and previously was manager of the department's Kalamazoo, Mich., sales district. He is a graduate of Purdue U. in 1939. WILLIAM E. HAMILTON is new district manager, New Orleans sales district, where he had been assistant manager. He is a graduate of the University of Missouri.

Mill Men Teach School

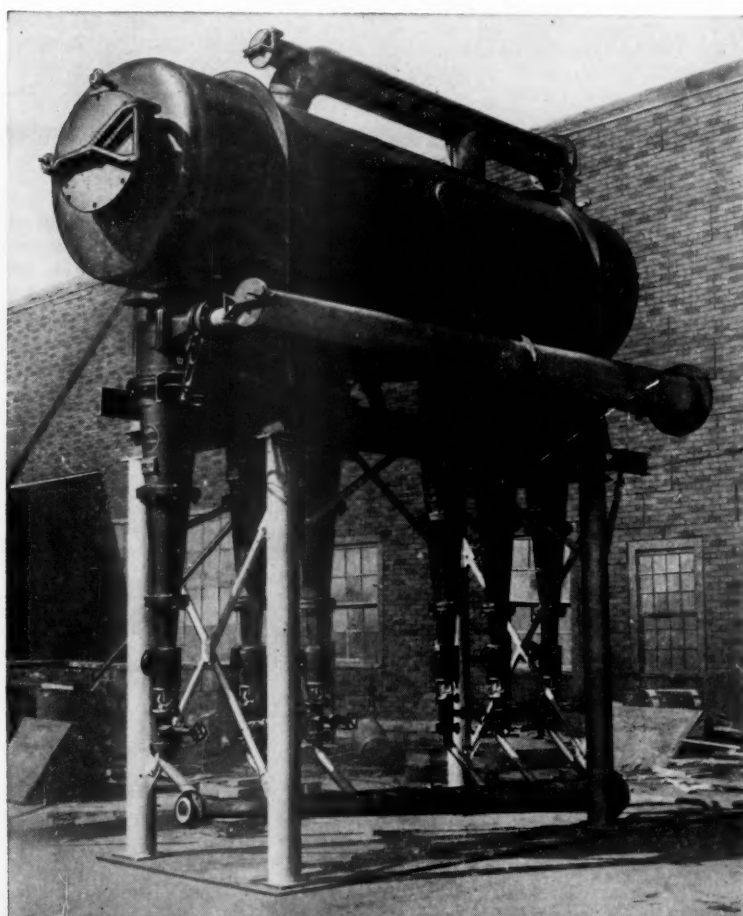
At Calhoun, Tenn., Bowaters

Southern Paper Corp. will provide two science teachers to two local high schools for the purpose of improving the level of technical education. Both teachers will be members of Bowaters' staff who devote full time to teaching activities during the school year. They must meet the usual requirements of Bowaters' technical staff and also be fully qualified to teach chemistry and physics.

Pulpwood Personals

HARRY S. MOSEBROOK, forester, American Pulpwood Assn., and Mrs. Mosebrook, recently toured the Ketchikan Pulp Co., Ward Cove, Alaska, on a trip to the Northland. ART M. BROOKS, logging manager, Ketchikan Pulp, showed them around. . . . NEIL PAULSON, 1957 forestry graduate of Michigan College of Mining and Technology, Houghton, Mich., won the Minnesota and Ontario Paper Co. graduate research fellowship in the Minnesota School of Forestry. He will continue observations on permanent sample plots established since 1946 and will begin new studies on continuous forest inventory. . . . COL. JOHN JENKINS, chief of Forest Products Laboratories of Canada, Ottawa, is heading a delegation to the Seventh British Commonwealth Forestry Conference in Adelaide, Australia. Others attending are NORMAN R. DUSTING, secy. of British Columbia Lumber Manufacturers Assn.; DR. ROBERT W. WELLWOOD, professor of the Forestry Faculty, University of B.C.; CHARLES D. SCHULTZ, Canadian Forestry Assn.; C. D. ORCHARD, deputy minister of forests for B.C.; H. W. BEALL, chief of operations div., Federal Forestry Branch, Dept. of Northern Affairs, Ottawa; and DR. B. M. MCGUGAN, forest biology div., Science Service, Dept. of Agriculture, Ottawa. . . . GEORGE B. P. MULLIN, former supervisor of Jefferson National Forest, is new chief of div. of station management at the Southeastern Forest Experiment Station, Asheville, N. C.

AFPI President VERTREES YOUNG, pres. of Gaylord Container Corp. Div. of Crown Zellerbach, recently honored when he was selected Citizen of the Year in Bogalusa, La. . . . DONALD L. MARTINDALE joins ED KNAPP in a consulting forester partnership in Macon, Ga. Don is a graduate of Michigan College of Mining and Technology and has been with the U. S. Forestry Service since he graduated in 1950. . . . FRANK A. ALBERT, well-known asst. regional forester of the U. S. Forest Service in Atlanta has retired after 30 years with the government and is now director of the Georgia Forest Research Council. His office is in Macon, Ga. . . . WALTER M. ZILLGITT, formerly of Ogden, Utah, is the new Chief of the div. of



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forest management research at the Southeastern Forest Experiment Station in Asheville, succeeding CARL OSTROM, who was promoted to a post in Washington, D.C. . . . JIM CRAIG, Jackson, Miss., consulting forester, was elected president of the Gulf States section of the Society of American Foresters. . . . TOM MARSHALL joins Gulf States Paper Corp. as a conservation forester in the forest development dept. He's a grad of LSU's school of forestry. . . . DR. E. S. HARRAR succeeds CLARENCE KORSTIAN as Dean of Duke U.'s school of forestry when the latter retires next year.

Ritchies In Europe: Pulp Demand High

On Sept. 5, James L. Ritchie, exec. director, U. S. Pulp Producers Assn., and his wife, Betty, sailed for Europe for a tour of the major pulp producing and consuming countries, planning to return in late October.

Europe had bought 20% more pulp from the five major supply countries—U.S., Canada and Scandinavia—in the first half of 1957 than last year.

Before his sailing, Mr. Ritchie pointed out that market pulp capacity is increasing by only 12% in 1957 and

1958, though a lot of this is coming in now, and this may be compared with annual 6.8% increase in all U.S. pulp capacity since the war.

He expects the strong pulp demand in Europe to increase. The major growth in papermaking and major recovery in Europe did not really start until 1950, he said.

Charlotte (N.C.) Observer: "Once considered a pest and economic liability, the lowly pine is shattering the old adage that money doesn't grow on trees."

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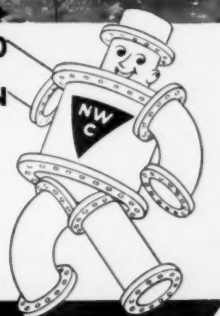


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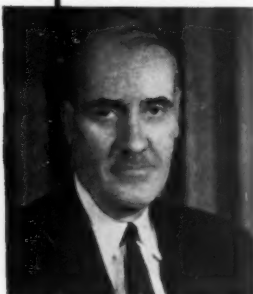
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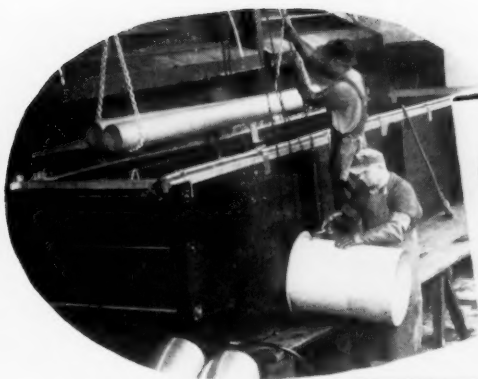
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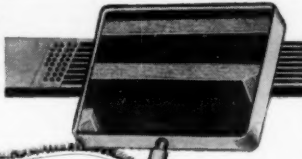
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P. R. Sandwell, President of Sandwell and Company Incorporated of Seattle, announces the appointment of Mr. Arthur Winiger of Zurich, Switzerland as a director. Mr. Winiger is the Managing Director of Electro-Watt Electrical and Industrial Management Co. Ltd., of Zurich. The Sandwell organization is associated with Electro-Watt in the electric power field.

Mr. Winiger is internationally recognized in the hydro-electric power development and atomic energy fields. He is a member of the Swiss National Committee of the World Power Conference, Vice-Chairman of the Board of Reactor Ltd., Wurenlingen, Switzerland, and Chairman of the Board of Atomelectra Ltd., Zurich.

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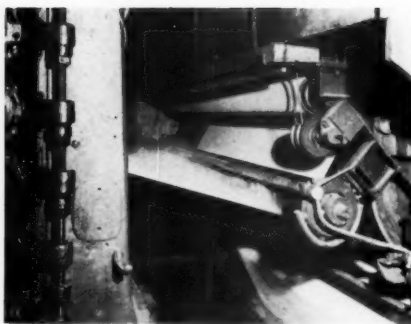
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ADVERTISERS' INDEX

Adell Chemical Co.	20	Griffith Rubber Mills	12	Reliance Electric & Engineering Co.	134-35
Alaskan Copper Works	175	Gulf States Paper Corp.	91	Republic Steel Corp.	64-65
Albany Felt Company	140-41			Rice Barton Corp.	1
Allied Chem. & Dye Corp., Nitrogen Division	inside front cover, 81	Hanchett Manufacturing Co.	152	Ridge Tool Co.	162
Alloy Steel Products Co.	34	Hercules Powder Co.	70	Riegel Paper Corp.	120
American Cyanamid Co.	99	Homelite Corp.	104	Roots-Connersville Blower Div.	167
American Hard Rubber Co.	158	Hooker Electrochemical Co.	123	J. O. Ross Engineering Corp.	130
American Hoist & Derrick Co.	115	Horsburgh & Scott Co.	169		
Appleton Machine Co.	32	Horton Mfg. Co.	174	Sandwell & Co.	177
Appleton Wire Works, Inc.	97	J. M. Huber Corp.	26	Sandy Hill Iron & Brass Works	133
Appleton Wood Products	176	F. C. Huyck & Sons	174	Scapa Dryers, Inc.	145
				Sealol Corp.	152
Babcock & Wilcox Co.	156	Improved Machinery Inc.	137	Shafer Bearing Div.	86
Baltimore & Ohio Railroad	79	Inflico Inc.	127	Shartle Bros. Machine Co.	21
Bauer Bros. Co.	4, 94	Ingersoll-Rand Co.	22	Shuler & Benninghofen	168
Beloit Iron Works	71-72			Signode Steel Strapping Co.	118
Bird Machine Co.	2	Jacksonville Blow Pipe Co.	176	Simonds Saw & Steel Co.	100
Black-Clawson Co.	21	Johns-Manville Corp.	122	S. Morgan Smith Co.	141
John W. Bolton & Sons, Inc.	31	Johnson Corp.	176	Ray Smythe Co.	176
Bristol Company	36	E. D. Jones & Sons Co.	80, 163	Soderhamn Machine Mfg. Co.	149
Buffalo Forge Co.	29			Solvay Process Div.	85
Bulkley Dunton Organization	87	Knox Woolen Co.	173	Sonoco Products Co.	178
Bunker Hill Lead Co.	179	Koppers Co., Inc.	131	South Western Gear Works	128
H. W. Butterworth & Sons Co.	175			Sprout, Waldron & Co., Inc.	119
		Samuel M. Langston Co.	132	Standard Oil Co. (Indiana)	121
Cameron Machine Co.	35	Lindsay Wire Weaving Co.	138	Stebbins Engineering & Mfg. Co.	144
Carpenter Steel Co.	89	Link-Belt Co.	125	Stowe-Woodward, Inc.	67
Carthage Machine Co.	170	Lockport Felt Co.	10	Subox, Inc.	153
Chain Belt Co.	86	Lodding Engineering Corp.	142	Swenson Evaporator Div.	171
Chemipulp Process Inc.	177	Lummus Co.	147		
Chicago Bridge & Iron Co.	24			Tennessee Corp.	150
Ciba Company	154	Manchester Machine Co.	117	Texas Gulf Sulphur Co.	68
Clark & Vicario Corp.	172	Mead Pulp Sales, Inc.	84	Torrington Co.	124
Classified Advertising	178-79	Merrick Scale Mfg. Co.	179	Tracerlab, Inc.	163
Combustion Engineering, Inc.	82-83	Mixing Equipment Co., Inc.	77		
Conveyair Inc.	102	Monsanto Chemical Co.	88	Union Asbestos and Rubber Co.	143
Cooper Alloy Corp.	90	Morden Machines Co.	92		
Crane Company	98	Multi-Metal Wire Cloth Co., Inc.	173	R. T. Vanderbilt Co.	38
Crucible Steel Co. of America	78	D. J. Murray Mfg. Co.	165		
				Walworth Co.	66
Damascus Tube Co.	95	Nash Engineering Co.	155	Warren Pumps, Inc.	164
DeZurik Corp.	136	National Aluminate Corp.	8	West End Chemical Co.	139
Dilts Machine Works	21	Naylor Pipe Co.	146	Western Gear Corp.	128
Henry Disston Div., H. K. Porter Co.	168	Nelson Company	174	Westvaco Chlor-Alkali Div.	16
Dominion Engineering Co. Ltd.	93	Nopco Chemical Co.	28	Weyerhaeuser Timber Co.	177
Dorr-Oliver, Inc.	74-75	Northwest Copper Works, Inc.	173	Whiting Corp.	171
Dow Chemical Co.	30			Wichita Clutch Co.	73
J. H. Dupasquier	178	Ohio Knife Co.	103	Williams-Gray Co.	170
E. I. duPont de Nemours & Co. Inc.	37	Olin Mathieson Chemical Corp.	23	Wisconsin Wire Works	177
		Owen Bucket Co.	174	Wyatt Metal & Boiler Works	63
East Texas Pulp & Paper Co.	116				
Ebasco Services, Inc.	174	Pacific Gear & Tool Works	128	Yarnall-Waring Co.	96
Electric Steel Foundry Co.	76	Pandia Inc.	21		
Emerson Mfg. Co.	31	Patton Manufacturing Co., Inc.	69	CONSULTANTS & ENGINEERS	180-81
English China Clays Sales Corp.	175	Perkins-Goodwin Company .. back cover		Colkin & Bayley, Inc.	
		Pneumatic Applications Co.	177	Central States Engineer- ing	
Farval Corp.	14	Puget Sound Fabricators, Inc.	170	Engineering Products Co.	
Felker Bros. Manufacturing Corp.	176	Puget Sound Pulp & Timber Co.	101	Inc.	
Fischer & Porter Co. . inside back cover		Pulp Bleaching Co.	179	John G. Hoad & Assoc.	
Foxboro Co.	27	Pusey & Jones Corp.	25	Alvin H. Johnson & Co.	
				Ketco Inc.	
General Chemical Div.	129	Rader Pneumatics Inc.	166	Lockwood Greene Engineers	
General Dyestuff Corp.	33	Charles P. Raymond Service	179	Lummus Co.	
Glidden Co.	18-19			Chas. T. Main, Inc.	
Goslin-Birmingham Mfg. Co., Inc.	157			Roderick O'Donoghue & Co.	
Gottesman & Company, Inc.	6			W. H. Rambo	
Goulds Pumps Inc.	159			Rust Engineering Co.	

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Ingredients For a Better Magazine: One Publication Consultant (Cortland Smith, facing camera); one Production Manager (Stephanie Pollitzer, at left) and three Editors (from left, Al Wilson, Bill Diehl and Maury Castagne).

Running Like the Devil to Stand Still

When you stop going forward—you don't just stand still—you slide backwards—but fast. That's one reason you see so much modernizing of equipment in the industry. As one pulpwood manager put it to P&P recently, "You have to run like the devil to even stand still."

P&P editors and production staff are always "running like the devil" to keep ahead. Each editor has this motto: No editor is worth his salt at his desk. Naturally, there's a certain amount of desk work necessary—to write the stories we develop in the field. But an editor's real worth is when he's in the field, visiting mills, talking to key production, management people, and suppliers. This is where we feel the industry's pulse; where we get the "leads" for our stories. This is how we know month after month what is on the industry's collective mind.

Still running like the devil, P&P's staff convened recently in New York. The schedule included private interviews with some industry leaders. Then, for one solid day, the staff huddled with a magazine consultant. Here we were really "running like the devil." You might say we thrive by being dissatisfied. You will be interested in watching the methods we will use to make your reading easier and even more satisfying to you.

Meanwhile—back in the field, P&P editors are digging up material for the stories that will be news in the months ahead. Coming: what's new in chlorine dioxide bleaching; a new paper machine starts up, a forestry by the acre program, the ultimate in coating machines, etc.

Editor Al Wilson recently returned to Chicago from a trip by car and train to the Rocky Mountain slopes in western Alberta to visit one of the newest and most unusual pulp mills in this industry; on the way home, he meandered around the rugged piney North Woods and lake country of western Ontario and northern Minnesota, visiting other new mills and installations. Eastern Editor Maury Castagne swung up into Quebec, where he found some interesting things going on. Southern Editor Bill Diehl swung from Tennessee to Virginia, then down to

Georgia and Florida. Western Editor Louis Blackerby followed the Columbia River and Willamette courses. And P&P staff men were present at a tree dedication in the Olympic Peninsula and on a trip to a Vancouver Island mill.

You will read their stories in this and future issues.

Tribute to Ted Tinker

Ted Tinker's name was virtually synonymous with the APPA and with realistic and intelligent forest conservation. He was, to a much greater extent than any other individual, the "voice" of this industry for 18 years. And a very articulate one, too.

Before that, he had a distinguished career with the U.S. Forest Service in Wisconsin, and later in Washington, D.C., as assistant chief forester and the creator of the USFS division of state and private forestry.

The entire staff of PULP & PAPER and the other Miller Freeman forestry and forest products magazines lost a fond friend and a staunch and peppery comrade in the cause of true forest conservation and sensible forest development when this man died Aug. 31 of peritonitis in a Black Hills hospital, while on a vacation.

Earl Warren Tinker was 66, and had served as APPA executive secretary under nine presidents. He did much to develop an appreciation for this industry in government circles and among the general public.

A veteran federal forester himself, Mr. Tinker knew whereof he spoke when he lambasted demagogues and sentimentalists who sought to make heroes of themselves or political capital by attacking forest industries or espousing fantastic crusades to "save the trees." Physically, he was a bantamweight, but he could take on them all.

Fortunately for the APPA, experienced 38-year old Robert E. O'Connor, nine years with the organization and a member of the New York state bar, has already been very capably carrying on the duties of executive secretary.

Management Gobbledygook . . .

We have been reading some mid-year reports lately, and not just for the pulp, paper and paperboard industries. Then along came Ed Kandlik, one of our favorite writers in the *Chicago Daily News*, who took a sly smack at some well-worn phrases of management lingo. We think you'll get a chuckle out of them, as did we.

For instance, you've read this one many times:

"As a temporary measure and in order to increase your company's working capital, it has been decided to reduce the dividend this year."

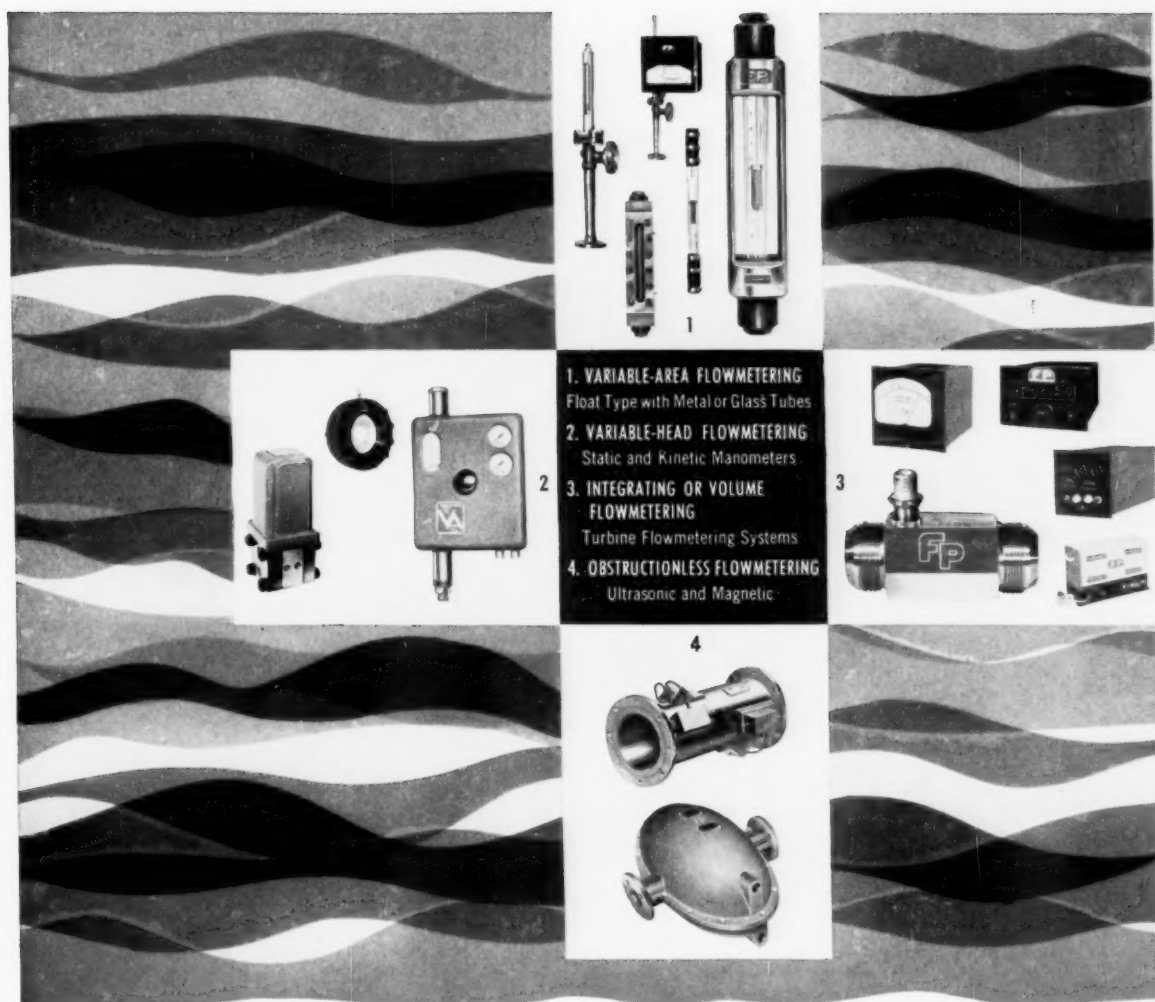
According to Mr. Kandlik it could have been said much more simply: "*Earnings are down.*"

And some others, with his simplified business English:

"While it is true that synthetic discoveries may in the future affect our sales, your management feels that it is fully prepared and equipped to face these problems realistically and with confidence as to the outcome."

"*Our competition is way ahead of us.*"

"Although the backlog of orders is smaller than last year, this decrease is reflected in the elimination of our government contract, which we feel will lessen our dependency on the whims of congressional appropriations."



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